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[www.lsr.com](http://www.lsr.com)

**ENGINEERING TEST REPORT # 309351**  
**LSR Job #: C-905**

**Compliance Testing of:**

Near Reader

**Test Date(s):**

May 12<sup>th</sup> 2010 and August 12<sup>th</sup>, 2010

**Prepared For:**

Strattec Security Corporation  
Attn; Mike Feucht  
3333 West Good Hope Road  
Milwaukee, WI 53209

**In accordance with:**  
**Federal Communications Commission (FCC)**  
**Title 47 CFR Part 15, Subpart C, Section 209 and 109**  
**General Operating Requirements for Low-Power License-Exempt Transceivers**

**This Test Report is issued under the Authority of:**

Thomas T. Smith, Manager EMC Test Services

Signature:

Date: 08.12.2010

**Test Report Reviewed by:**

Ryan M. Urness, Laboratory Manager

Signature: Date: 08.12.2010

**Tested by:**

Kenneth Boston, Senior EMC Engineer

Signature: Date: 06.16.2010

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## EXHIBIT 1. INTRODUCTION

### 1.1 SCOPE

<b>References:</b>	FCC Part 15, Subpart C, Section 15.209
<b>Title:</b>	Telecommunication – Code of Federal Regulations, CFR 47, Part 15
<b>Purpose of Test:</b>	To gain FCC Certification Authorization for Low-Power License-Exempt Transmitters.

<b>References:</b>	FCC Part 15, Subpart B, Section 15.109
<b>Title:</b>	Telecommunication – Code of Federal Regulations, CFR 47, Part 15
<b>Purpose of Test:</b>	To gain FCC Certification Authorization for a Digital Device or a Non-Intentional Radiator.

<b>References:</b>	RSS 210 Annex 2
<b>Title:</b>	Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I equipment.
<b>Purpose of Test:</b>	To gain IC Certification Authorization for Low-Power License-Exempt Transmitters.

<b>References:</b>	RSS GEN
<b>Title:</b>	General requirements and Information for the Certification of Radiocommunication Equipment.
<b>Purpose of Test:</b>	To gain IC Certification Authorization for Low-Power License-Exempt Transmitters.

<b>Test Procedures:</b>	Both conducted and radiated emissions measurements were conducted in accordance with American National Standards Institute ANSI C63.4 – American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
<b>Environmental Classification:</b>	<ul style="list-style-type: none"><li>• Commercial, Industrial or Business</li><li>• Residential</li></ul>

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## 1.2 NORMATIVE REFERENCES

Publication	Year	Title
47 CFR, Parts 0-15 (FCC)	2007-2010	Code of Federal Regulations - Telecommunications
RSS 210 Annex 2	2007	Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I equipment.
RSS GEN	2007	General requirements and information for the certification of Radiocommunication Equipment.
ANSI C63.4	2009	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
CISPR 16-1-1	2006-03 A1: 2006-09 A2: 2007-07	Specification for radio disturbance and immunity measuring apparatus and methods. Part 1-1: Measuring Apparatus.
CISPR 16-2-1	2003 A1: 2004-04 A2: 2007-07	Specification for radio disturbance and immunity measuring apparatus and methods. Part 201: Conducted disturbance measurement.

### 1.3 LS Research, LLC TEST FACILITY

LS Research, LLC is accredited by A2LA (American Association for Laboratory Accreditation) to conform to ISO/IEC 17025, 2005 "General Requirements for the Competence of Calibration and Testing Laboratories".

LS Research, LLC's scope of accreditation includes all test methods listed herein, unless otherwise noted. Accreditation status can be verified at A2LA's web site: [www.a2la2.net](http://www.a2la2.net).

### 1.4 LOCATION OF TESTING

All testing was performed at LS Research, LLC, W66 N220 Commerce Court, Cedarburg, Wisconsin, 53012 USA, utilizing the facilities listed below, unless otherwise noted.

List of Facilities Located at LS Research, LLC:

- Compact Semi-Anechoic Chamber
- FCC Listed Semi-Anechoic Chamber
- Open Area Test Site (OATS)

### 1.5 TEST EQUIPMENT UTILIZED

A complete list of equipment utilized in testing is provided in Appendix A of this test report. Calibration dates are indicated in Appendix A. All test equipment is calibrated by an ISO 17025 accredited calibration laboratory, traceable to the SI standard.

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## EXHIBIT 2. PERFORMANCE ASSESSMENT

### 2.1 CLIENT INFORMATION

<b>Manufacturer Name:</b>	Strattec Security Corporation
<b>Address:</b>	3333 W.Good Hope Road; Milwaukee, WI 53209
<b>Contact Person:</b>	Mike Feucht
<b>Contact Phone:</b>	414-427-3333
<b>Contact Email:</b>	mfeucht@strattec.com

### 2.2 EQUIPMENT UNDER TEST (EUT) INFORMATION

*The following information has been supplied by the applicant.*

<b>Product Name:</b>	Near Reader
<b>Model Number:</b>	5908933
<b>Serial Number:</b>	n/a

### 2.3 ASSOCIATED ANTENNA DESCRIPTION

The 125 KHz antenna for the Near Reader is an external air core inductor. The coil is made resonant to 125 KHz through a series L-C-R circuit. There is a discrete series capacitor selected for the inductance of the coil and cable together so as to achieve a resonant condition at 125 KHz.

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## 2.4 EUT'S TECHNICAL SPECIFICATIONS

### Additional Information:

Frequency Range (in MHz)	0.125 MHz
RF Power in Watts	Note 1
Conducted Output Power (in dBm)	Note 1
EIRP (in mW)	01. (-10 dBm at 3 meters)
Field Strength at 10 meters	61.9dB $\mu$ V/m
Occupied Bandwidth (99% BW)	n/a (pulsed carrier)
Type of Modulation	n/a (pulsed carrier)
Emission Designator	2K1D
Transmitter Spurious (worst case) at 3 meters	25.2 dB $\mu$ V/m @ 35.7 MHz, 3 meters
Receiver Spurious (worst case) at 3 meters	25.2 dB $\mu$ V/m @ 35.7 MHz, 3 meters
Frequency Tolerance %, Hz, ppm	n/a
Microprocessor Model # (if applicable)	n/a
EUT will be operated under FCC Rule Part(s)	CFR 47 part 15.209
Antenna Information:	
a) Antenna Type	Inductive loop
b) Detachable/Non-Detachable	Non-detachable
c) Antenna Gain (in dBi)	Note 1
Modular Filing	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Portable or Mobile?	Mobile

Note 1: Direct measurement of the conducted power output was not possible, due the lack of a suitable direct output port from the device, and further, antenna gain cannot be determined.

### RF Technical Information:

Type of Evaluation (check one)	<input type="checkbox"/>	SAR Evaluation: Device Used in the Vicinity of the Human Head
	<input type="checkbox"/>	SAR Evaluation: Body-worn Device
	<input checked="" type="checkbox"/>	RF Evaluation

If RF Evaluation checked above, the following applies::

- Evaluated against exposure limits:  General Public Use  Controlled Use
- Duty Cycle used in evaluation: 100 %
- Standard used for evaluation: 15.209, RSS-210 (Issue 7, 2007)
- Measurement Distance: 10 m
- RF Value:  $< 0.002$   V/m  A/m  W/m<sup>2</sup>  
 Measured  Computed  Calculated

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## 2.5 PRODUCT DESCRIPTION

The Near Reader is a 125 kHz transceiver. This product is used as part of a wireless ignition key automotive starting system. The Near Reader transmit and receive frequency is 125 kHz (fixed channel).

Peripheral equipment is connected through multi-conductor cables.

The system is made to be in an active state by inserting a key into the cylinder socket mounted on the sensor coil.

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### EXHIBIT 3. EUT OPERATING CONDITIONS & CONFIGURATIONS DURING TESTS

#### 3.1 CLIMATE TEST CONDITIONS

Temperature:	70 deg F
Humidity:	40 %
Pressure:	960 mm

#### 3.2 APPLICABILITY & SUMMARY OF EMC EMISSION TEST RESULTS

FCC Paragraph	Test Requirements	Compliance (yes/no)
FCC : 15.107 IC : RSS GEN 7.2.2	Power Line Conducted Emissions Measurements	n/a
IC: RSS GEN 4.6	Occupied Bandwidth	n/a
FCC : 15.109 IC : RSS 210 2.6	Un-Intentional Radiated Emissions	Yes
FCC : 15.209 (a) IC : RSS 210 A2	Maximum RF Output Power	Yes
FCC : 15.209 (c) IC : RSS 210 A2	Maximum RF Spurious Emissions	Yes
FCC : 15.109 & 15.205 IC : RSS 210 A2 and 2.6	Transmitter General Radiated Emissions	Yes
FCC: 15.209 (b)	Band edge requirements	n/a

#### 3.3 MODIFICATIONS INCORPORATED IN THE EUT FOR COMPLIANCE PURPOSES

None  Yes (explain below)

#### 3.4 DEVIATIONS & EXCLUSIONS FROM TEST SPECIFICATIONS

None  Yes (explain below)

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## EXHIBIT 4. DECLARATION OF CONFORMITY

The EUT was found to **MEET** the requirements as described within the specification of FCC Title 47, CFR Part 15.209, and Industry Canada RSS-210, Issue 7 (2007), Section 2.6 for a Low-Power License-Exempt Transmitters, as well as the specification of FCC Title 47, CFR Part 15.109, and Industry Canada RSS-210, Issue 7 (2007), Section 7 for non-intentional radiators.

LS Research, LLC certifies that the data contained herein was taken under conditions that meet or exceed the requirements of the test specifications. The results in this Test Report apply only to the item(s) tested on the above-specified dates. Any modifications made to the EUT subsequent to the indicated test date(s) will invalidate the data herein, and void this certification.

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## EXHIBIT 5. RADIATED EMISSIONS TEST FOR TRANSMIT AND RECEIVE.

### 5.1 Test Setup

The test setup was assembled in accordance with Title 47, CFR FCC Part 15, RSS GEN, and ANSI C63.4. The Near Reader, henceforth referred to as the EUT, was placed on an 80cm high non-conductive pedestal, centered on a flush mounted 2-meter diameter turntable inside a 3 meter Semi-Anechoic, FCC listed Chamber. The EUT was also measured over the Low frequency range, on a 10 meter OATS.

### 5.2 Test Procedure

Radiated RF measurements were performed at a separation distance of 3 meters on the EUT in a Semi-Anechoic, FCC listed Chamber. The frequency range from 100 kHz to 1000 MHz was scanned and investigated. For the case where emissions below 30MHz were found, measurements of those emissions were repeated on the OATS at a 10m measurement distance. The radiated RF emission levels were manually noted at the various fixed degree settings of azimuth on the turntable and antenna height. A Biconical Antenna was used to measure emissions from 30 MHz to 300 MHz, and a Log Periodic Antenna was used to measure emissions from 300 MHz to 1000 MHz. For emissions below 30 MHz, an active loop antenna was used. The loop antenna was set at a height of 1m above the conducting ground plane and it was rotated about its vertical and horizontal axes (while utilizing the turntable to rotate the EUT) in order to measure the maximum radiated RF emissions. The maximum radiated RF emissions above 30MHz were found by raising and lowering the antenna between 1 and 4 meters in height, using both horizontal and vertical antenna polarities and rotating the EUT using the turntable.

The EUT was rotated along three orthogonal axes during the investigations to find the highest emission levels. The EMI system was operated with the resolution bandwidth set at 200 Hz for measurements between 9kHz and 150kHz, 9kHz for measurements between 150kHz and 30MHz and 120kHz for measurements between 30MHz and 1000 MHz.

**Due to the nature of the device, while in normal operation, the emissions of the transmitter and receiver can be measured simultaneously. Proceeding graphs and data in this report are that of both TRANSMIT and RECEIVE modes.**

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### **5.3 Test Equipment Utilized**

A list of the test equipment and antennas utilized for the Radiated Emissions test can be found in Appendix A. This list includes calibration information and equipment descriptions. All equipment is calibrated and used according to the operation manuals supplied by the manufacturers. All calibrations of the antennas used were performed at an IEC/ISO 17025 accredited calibration laboratory, traceable to the SI standard. In addition, the Connecting Cables were measured for losses using a calibrated Signal Generator and an Agilent E4445A/N9039A EMI System. The resulting correction factors and the cable loss factors from these calibrations were entered into the EMI Receiver database. As a result, the data taken from the EMI Receiver accounts for the antenna correction factor as well as cable loss or other corrections, and can therefore be entered into the database as a corrected meter reading. The EMI Receiver was operated with resolution bandwidths as prescribed in ANSI C63.4.

### **5.4 Test Results**

The EUT was found to **MEET** the Radiated Emissions requirements of Title 47 CFR, FCC Part 15.209 for a Low-Power License-Exempt transmitter [Canada RSS-210]. The frequencies with significant RF signal strength were recorded and plotted as shown in the Data Charts and Graphs.

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## 5.5 CALCULATION OF RADIATED EMISSIONS LIMITS

### Transmitter Limits

The maximum peak output power of an intentional radiator in the 9-490 kHz band, as specified in Title 47 CFR 15.209 and RSS 210 section 2.7, is calculated in a formula as described below. The harmonic and spurious RF emissions, with appropriate receiver bandwidths, as specified in 15.209 (c) and section 2.7 of RSS 210, shall be below the measured power of the desired signal, and must also meet the requirements described in 15.205(c) for FCC and table 1 of RSS 210 where applicable.

The following table depicts the general radiated emission limits. These limits are obtained from Title 47 CFR, Part 15.209, for radiated emissions measurements and are comparable to that of table 3 in RSS 210 section 2.7. These limits were applied to the fundamental emission of the intentional radiator as well as all other significant spurious signals.

Frequency (MHz)	Limit $\mu\text{V/m}$	Limit (dB $\mu\text{V/m}$ )	Measurement Distance (m)
0.009-0.490	2400/F (kHz)	Note 1	300
0.490-1.705	24000/F (kHz)		30
1.705-30.0	30		30
30-88	100	40.0	3
88-216	150	43.5	3
216-960	200	46.0	3
960-24,000	500	54.0	3

Note 1: Sample calculation for the Fundamental Emission of a transmitter:

Given that a transmitter operates at a fundamental frequency of 125 kHz, the emission limit may be calculated:

$$2400/F = 2400/125 = 19.2 \mu\text{V/m} \text{ if measured at 300 meters separation.}$$

Expressed in decibels:  $20 \log_{10} (19.2) = 25.67 \text{ dB}\mu\text{V/m}$  at 300 m separation.

At 3 meters separation, the limit may be extrapolated by the addition of 40 dB/decade per 47CFR 15.31(f)(2)

$$\text{Limit for the fundamental emission} = 25.67 \text{ dB}\mu\text{V/m} + 80 \text{ dB} = 105.67 \text{ dB}/\mu\text{V/m} \text{ at 3 meters}$$

$$\text{Limit for the fundamental emission} = 25.67 \text{ dB}\mu\text{V/m} + 59.08 \text{ dB} = 84.75 \text{ dB}/\mu\text{V/m} \text{ at 3 meters}$$

### LIMITS FOR READINGS TAKEN AT 3 and 10 METERS

Frequency (MHz)	FCC Limit ( $\mu\text{V/m}$ )	FCC Limit (dB $\mu\text{V/m}$ )	Scaling Factor (3 meter)	Adj Limit (dB $\mu\text{V/m}$ ) (3 meter)	Scaling Factor (10 meter)	Adj Limit (dB $\mu\text{V/m}$ ) (10 meter)
0.125	19.20 @ 300 m	25.67	80.0	105.67	59.08	84.75
0.250	9.60 @ 300 m	19.64	80.0	99.64	59.08	78.72
0.375	6.40 @ 300 m	16.12	80.0	96.12	59.08	75.20
0.500	48.0 @ 30 m	33.62	40.0	73.62	19.08	52.70
0.625	38.40 @ 30 m	31.69	40.0	71.69	19.08	50.77
0.750	32.0 @ 30 m	30.10	40.0	70.10	19.08	49.18
0.875	27.43 @ 30 m	28.76	40.0	68.76	19.08	47.84
1.000	24.0 @ 30 m	27.60	40.0	67.60	19.08	46.68
1.125	21.33 @ 30 m	26.58	40.0	66.58	19.08	45.66
1.250	19.20 @ 30 m	25.67	40.0	65.67	19.08	44.75
1.705 – 30.0	30.0 @ 30 m	29.54	40.0	69.54	19.08	48.62

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## 5.6

**RADIATED EMISSIONS DATA CHART**

3 Meter Measurements of Electromagnetic Radiated Emissions  
 Frequency Range Inspected: 9 kHz to 1000 MHz

Manufacturer:	Strattec Security Corporation					
Date(s) of Test:	May 12 <sup>th</sup> 2010 and August 12 <sup>th</sup> 2010					
Test Engineer(s):	Kenneth boston					
Voltage:	EUT : 12.7 VDC					
Operation Mode:	Normal operation. Simultaneous transmit and receive					
Environmental Conditions in the Lab:	Temperature: 20 – 22° C Relative Humidity: 45 %					
EUT Power:		Single Phase 120VAC			3 Phase ___ VAC	
	X	Battery, 12.7 VDC lead acid			Other:	
EUT Placement:		80cm non-conductive table			10cm Spacers	
EUT Test Location:	X	3 Meter Semi-Anechoic FCC Listed Chamber			X	10m OATS
Measurements:		Pre-Compliance			Preliminary	X Final
Detectors Used:	X	Peak			X Quasi-Peak	X Average

**RADIATED EMISSIONS DATA CHART (continued)**

The following table depicts the level of significant *spurious* radiated RF emissions found for both the **transmit** and **receive** mode:

**1. EUT with loop antenna**

Frequency (MHz)	Antenna Polarization	Height (m)	Azimuth (°)	Q. Peak Det. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
35.7	V	1.0	180	25.2	40.0	14.8
64.0	V	1.0	310	18.6	40.0	21.4
160.0	H	1.95	0	19.2	40.0	20.8
183.4	V	1.0	270	18.0	40.0	22.0

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## RADIATED EMISSIONS DATA CHART (continued)

The following table depicts the level of significant radiated RF **fundamental and harmonic** emissions seen for the EUT positioned in the Semi-Anechoic chamber for a **3 meter** measurement:

Frequency (MHz)	Antenna Polarization	EUT loop Orientation	Height (m)	Azimuth (°)	Peak Det. (dBµV/m)	Q. Peak Det. (dBµV/m)	Avg Det. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
0.248	V	V	1.00	150	58.3	55.8	<b>52.0</b>	99.6	-47.6
0.373	V	V	1.00	155	56.7	54.6	<b>51.9</b>	96.1	-44.2
0.497	V	V	1.00	0	48.9	<b>45.0</b>	39.0	73.6	-28.6
0.622	V	V	1.00	0	47.2	<b>44.8</b>	39.6	71.7	-26.9
0.746	V	V	1.00	0		Note 2			
0.869	V	V	1.00	0		Note 2			
0.993	V	V	1.00	0		Note 2			
1.117	V	V	1.00	0		Note 2			
1.240	V	V	1.00	0		Note 2			

The following table depicts the level of significant radiated RF **fundamental** emissions seen for the EUT positioned on the OATS for a 10m measurement: Harmonics at **10 meters** were not discernable in the receiver system noise floor.

Frequency (MHz)	Antenna Polarization	EUT loop Orientation	Height (m)	Azimuth (°)	Peak Det. (dBµV/m)	Q. Peak Det. (dBµV/m)	Avg Det. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
0.124	V	V	1.00	155	62.3	62.3	<b>61.9</b>	84.7	-22.8

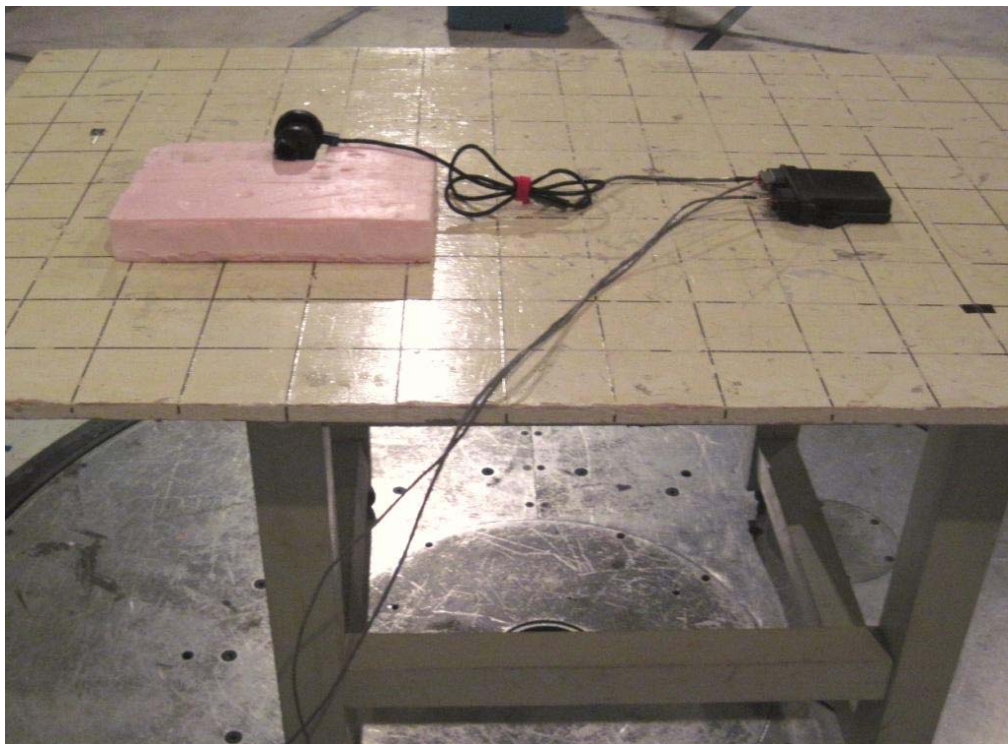
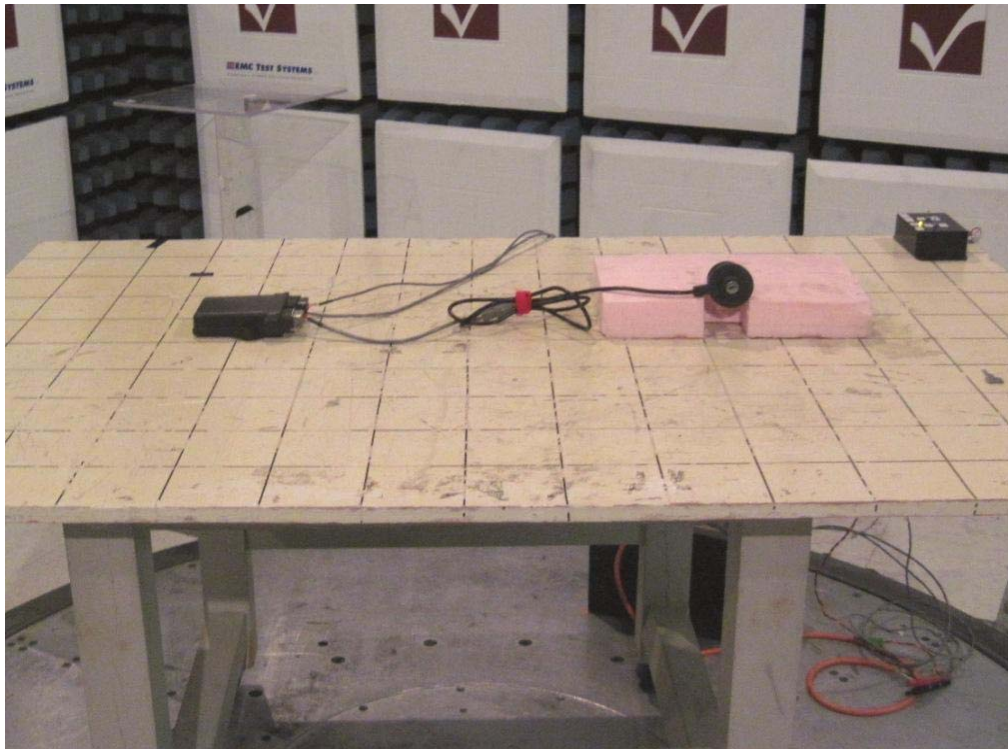
Notes:

- 1) An Average Detector function was used in measurements between 110-490 kHz, a Quasi-Peak Detector was used in measurements between 490 kHz and 30 MHz, and 30 MHz to 1 GHz.
- 2) Measurement buried within receiver system noise floor.
- 3) Measurements below 30MHz were performed at 3m and 10m separation distance. The limits were corrected to reflect the change in measurement distance.
- 4) V = Vertical, S= side, H = Horizontal, F= Flat.

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## 5.7 Test Setup Photo(s) – Radiated Emissions Test



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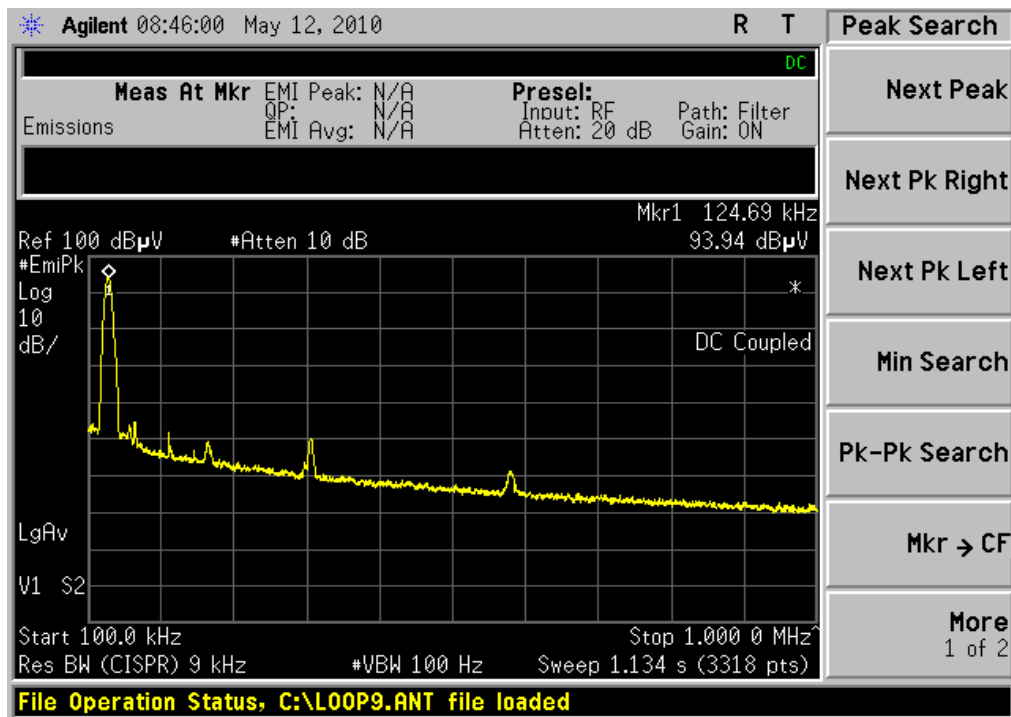
## 5.8 Screen Captures - Radiated Emissions Testing

These screen captures represent Peak Emissions. For radiated emission measurements, a Quasi-Peak or Average detector function is utilized when measuring frequencies below 1 GHz. For the purpose of smoothing the plots while investigating the emissions below 30 MHz, a reduced video bandwidth was utilized.

The signature scans shown here are from worst-case emissions with the sense antenna in either vertical or horizontal polarity for worst case presentations.

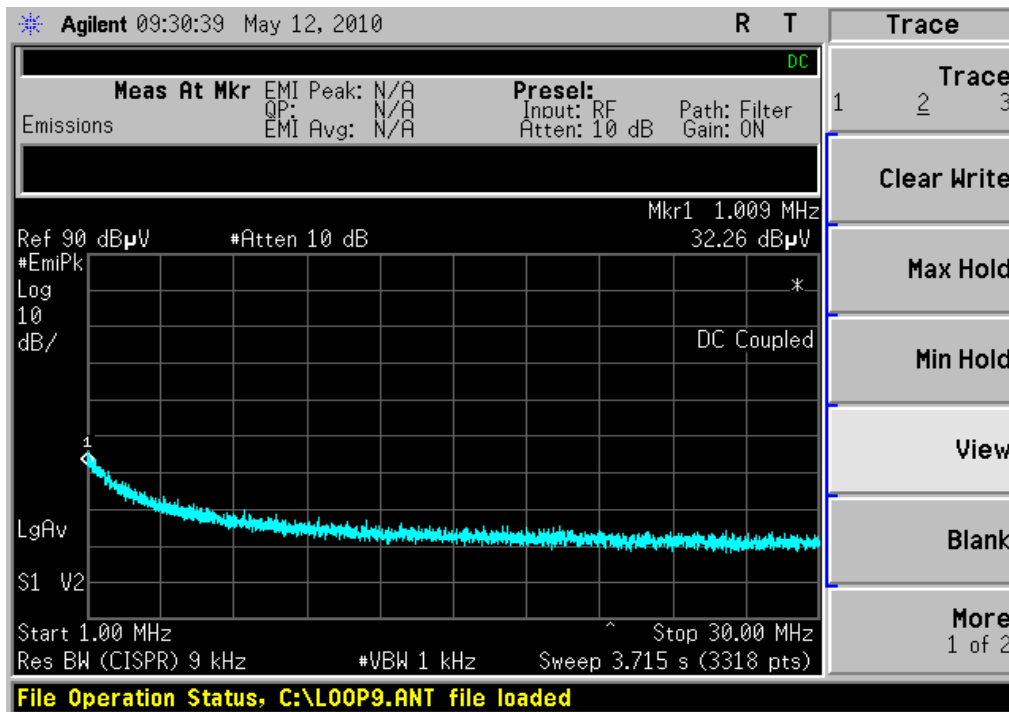
### 5.8.1 EUT in pulsed transmit.

#### 100 kHz-1MHz, at 3m; EUT loop and EMI antenna loop parallel and vertical

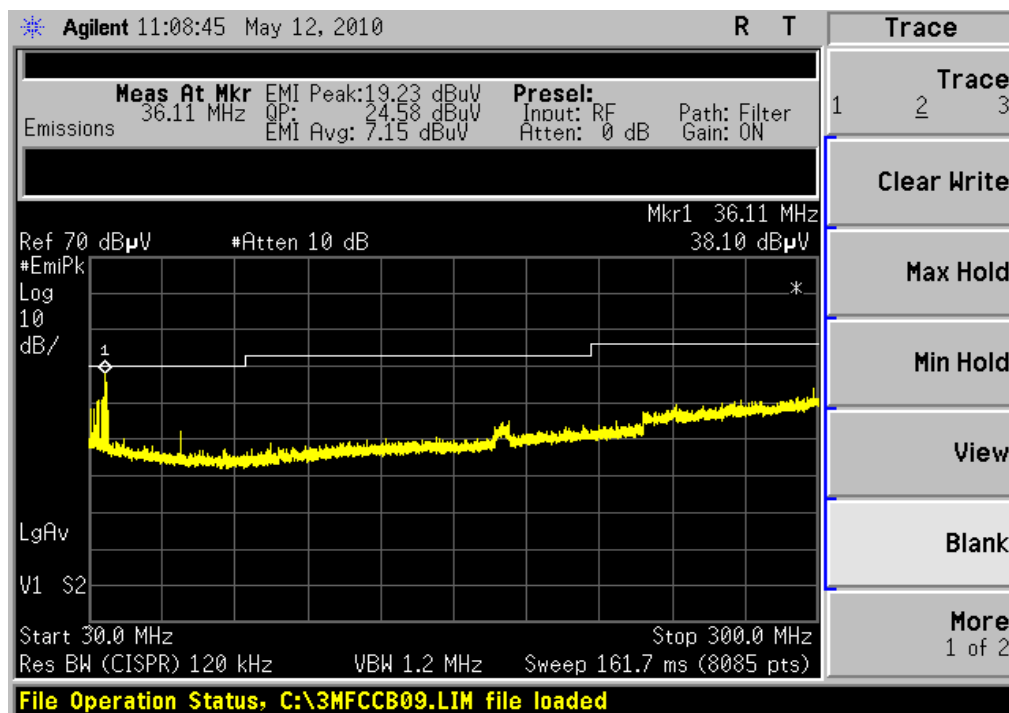


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# 1 MHz to 30 MHz, at 3m; EUT loop and EMI antenna loop parallel and vertical

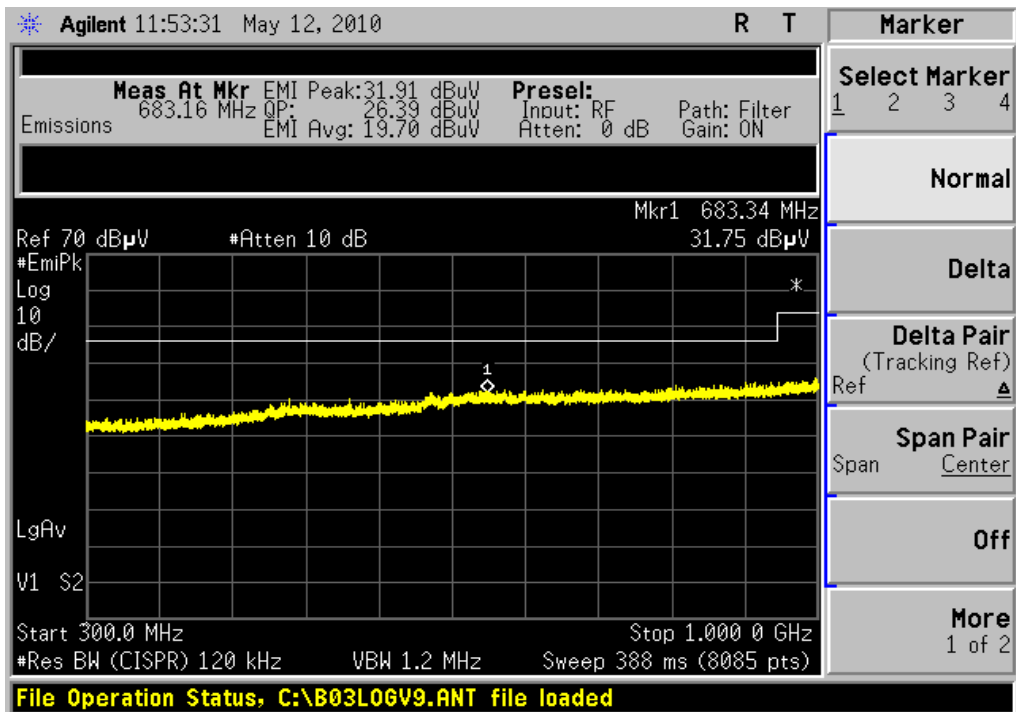


# Vertical Polarization, 30 MHz to 300 MHz, at 3m



Prepared For: Strattec Security Corp	Model #: 5908933	LS Research, LLC
EUT: Near Reader	IC:	Template: 15.209 - v1 10-22-09
Report #:309351	FCC ID #: OHT5908933	Page 20 of 26

### Vertical Polarization, 300 MHz to 1000 MHz, at 3m



**EXHIBIT 6. CONDUCTED EMISSIONS TEST, AC POWER LINE TRANSMIT AND RECEIVE:**

**6.1 Conducted emissions.**

No conducted emissions were necessary as the Near Reader is intended for automotive use, and is powered by the 12.7 VDC battery buss.

Prepared For: Strattec Security Corp	Model #: 5908933	LS Research, LLC
EUT: Near Reader	IC:	Template: 15.209 - v1 10-22-09
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## EXHIBIT 7. OCCUPIED BANDWIDTH

### 7.1 Limits

There are no stated limits for the occupied bandwidth for devices operating under Title 47, CFR FCC Part 15.209. The near reader emits only an un-modulated carrier at the transmit frequency of 125 kHz.

Prepared For: Strattec Security Corp	Model #: 5908933	LS Research, LLC
EUT: Near Reader	IC:	Template: 15.209 - v1 10-22-09
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## APPENDIX A



Date : 12-May-2010

Type Test : Radiated Emissions (209)

Job # : C-905

Prepared By: KLB

Customer : Strattec Securitiy Corporation

Quote # : 309351

No.	Asset #	Description	Manufacturer	Model#	Serial #	Cal Date	Cal Due Date	Equipment Status
1	AA 960006	Active Loop Antenna	EMCO	6502	9205-2753	9/14/2009	9/14/2011	Active Calibration
2	AA 960077	Bicon Antenna	EMCO	93110B	9702-2918	11/20/2009	11/20/2010	Active Calibration
3	AA 960078	Log Periodic Antenna	EMCO	93146	9701-4855	10/16/2009	10/16/2010	Active Calibration
4	EE 960156	100kHz-1GHz Analog Signal Generator	Agilent	N5181A	MY49060062	3/7/2009	3/7/2010	Active Calibration
5	EE 960157	3Hz-13.2GHz Spectrum Analyzer	Agilent	E4445A	MY48250225	3/17/2009	3/17/2010	Active Calibration
6	EE 960158	RF Preselector	Agilent	N9039A	MY46520110	7/2/2009	7/2/2010	Active Calibration

Prepared For: <u>Strattec Security Corp</u>	Model #: <u>5908933</u>	LS Research, LLC
EUT: <u>Near Reader</u>	IC:	Template: <u>15.209 - v1 10-22-09</u>
Report #: <u>309351</u>	FCC ID #: <u>OHT5908933</u>	<b>Page 24 of 26</b>





**APPENDIX C**  
**Uncertainty Statement**

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level, using a coverage factor of k=2.

*Table of Expanded Uncertainty Values, (K=2) for Specified Measurements*

Measurement Type	Particular Configuration	Uncertainty Values
Radiated Emissions	3 – Meter chamber, Biconical Antenna	4.24 dB
Radiated Emissions	3-Meter Chamber, Log Periodic Antenna	4.8 dB
Radiated Emissions	10-Meter OATS, Biconical Antenna	4.18 dB
Radiated Emissions	10-Meter OATS, Log Periodic Antenna	3.92 dB
Conducted Emissions	Shielded Room/EMCO LISN	1.60 dB
Radiated Immunity	3 Volts/Meter in 3-Meter Chamber	1.128 Volts/Meter
Conducted Immunity	3 Volts level	1.0 V