

**Nemko-CCL, Inc.**  
**1940 West Alexander Street**  
**Salt Lake City, UT 84119**  
**801-972-6146**

## **Test Report**

Certification

Test Of: GBRF, GBBIO, and GBPREM

FCC ID: 2ABSTRPH0001

Test Specification:

FCC Part 15, Subpart C

Test Report Serial No.: 248668-3.1

Applicant:  
RPH Engineering, LLC  
1601 N. State St., Suite 1A  
Lehi, UT 84043  
U.S.A

Date of Test: November 25, 2013

Report Issue Date: February 4, 2014

Accredited Testing Laboratory By:



NVLAP Lab Code 100272-0

**CERTIFICATION OF ENGINEERING REPORT**

This report has been prepared by Nemko-CCL, Inc. to document compliance of the device described below with the requirements of Federal Communications Commission (FCC) Part 15, Subpart C. This report may be reproduced in full, partial reproduction may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

- Applicant: RPH Engineering, LLC
- Manufacturer: RPH Engineering, LLC
- Brand Name: The Gun Box
- Model Number: GBRF, GBBIO, and GBPREM
- FCC ID: 2ABSTRPH0001


On this 4<sup>th</sup> day of February 2014, I, individually and for Nemko-CCL, Inc., certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge, and are made in good faith.

Although NVLAP has accredited the Nemko-CCL, Inc. EMC testing facilities, this report must not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Nemko-CCL, Inc.



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Tested by: Norman P. Hansen  
Test Technician

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Reviewed by: Thomas C. Jackson  
General Manager

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**SECTION 1.0 CLIENT INFORMATION**

**1.1 Applicant:**

Company Name: RPH Engineering, LLC  
1601 N. State St., Suite 1A  
Lehi, UT 84043  
U.S.A

Contact Name: Robert Simpson  
Title: VP of Operations

**1.2 Manufacturer:**

Company Name: RPH Engineering, LLC  
1601 N. State St., Suite 1A  
Lehi, UT 84043  
U.S.A

Contact Name: Robert Simpson  
Title: VP of Operations

**SECTION 2.0 EQUIPMENT UNDER TEST (EUT)****2.1 Identification of EUT:**

Brand Name: The Gun Box  
Model Number: GBRF, GBBIO, and GBPREM  
Serial Number: None  
Dimensions: 29 cm x 25 cm x 6 cm

**2.2 Description of EUT:**

The GBRF, GBBIO, and GBPREM are portable safes for handguns. The devices are powered by a battery or from a Samsung ETA-P11X AC to DC adapter. The devices provide 2 USB ports for charging other devices. The antenna for the RFID reader is a trace on the RFID PCB. The GBPREM was tested as it has all available options which include a cell module, a GPS module, RF ID reader, and a fingerprint scanner. The GBRF has only the RF ID reader and the GBBIO has both the RFID reader and the fingerprint scanner.

The cell module is a Shanghai Simcom SIM900 with FCC ID UDV-0912142009007. The GPS module is an ADH Technology GP-3363.

**2.3 EUT and Support Equipment:**

The FCC ID numbers for all the EUT and support equipment used during the test are listed below:

Brand Name Model Number Serial No.	FCC ID Number	Description	Name of Interface Ports/Interface Cables
BN: The Gun Box MN: GBPREM (Note 1) SN: None	2ABSTRPH0001	Gun safe	See Section 2.4
BN: Samsung MN: Galaxy S4 SN: None	A3LGTI9505	Cell Phone	USB/Micro USB to USB A cable (Note 2)

Note: (1) EUT  
(2) Interface port connected to EUT (See Section 2.4)

The support equipment listed above was not modified in order to achieve compliance with this standard.

**2.4 Interface Ports on EUT:**

Name of Ports	No. of Ports Fitted to EUT	Cable Descriptions/Length
USB	2	USBA to Micro USB/1 meter USB A to USB B/1.5 meters

**2.5 Modifications Incorporated/Special Accessories on EUT:**

The following modifications were made to the EUT by the Client during testing to comply with the specification. This report is not complete without an accompanying signed attestation, that the product will have all of the documented modifications incorporated into the product when manufactured and placed on the market.

1. The filter circuitry for the RFID reader labeled DNS on the schematics were installed in the device and the schematic changed to reflect the installation of these components.

**SECTION 3.0 TEST SPECIFICATION, METHODS & PROCEDURES****3.1 Test Specifications:**

Title: FCC Part 15, Subpart C (47 CFR 15)  
15.203, 15.207, and 15.225

Purpose of Test: The tests were performed to demonstrate initial compliance.

**3.2 Methods & Procedures:****3.2.1 §15.203 Antenna Requirement:**

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

**3.2.2 §15.207 Conducted Limits:**

- (a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15 – 0.5*	66 to 56*	56 to 46*
0.5 – 5	56	46
5 - 30	60	50

\*Decreases with the logarithm of the frequency

**3.2.3 §15.225 Operation Within the Band 13.110 – 14.010:**

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

(e) The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

(f) In the case of radio frequency powered tags designed to operate with a device authorized under this section, the tag may be approved with the device or be considered as a separate device subject to its own authorization. Powered tags approved with a device under a single application shall be labeled with the same identification number as the device.

**3.3 Test Procedures:**

The line conducted and radiated emission testing was performed according to the procedures in ANSI C63.4:2003. Testing was performed at the Nemko-CCL, Inc. Wanship open area test site #2, located at 29145 Old Lincoln Highway, Wanship UT. This site has been registered with the FCC, and was renewed February 15, 2012 (90504). This registration is valid for three years.

Nemko-CCL, Inc. is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Lab Code: 100272-0, which is effective until September 30, 2014.



## **SECTION 4.0 OPERATION OF EUT DURING TESTING**

### **4.1 Operating Environment:**

Power Supply: 120 VAC  
AC Mains Frequency: 60 Hz

### **4.2 Operating Modes:**

The EUT was tested with an RFID tag placed in the field and being continually read. The cell phone module and GPS modules were operating as normal.

### **4.3 EUT Exercise Software:**

Internal firmware was used to exercise the EUT.

**SECTION 5.0 SUMMARY OF TEST RESULTS****5.1 Class B of FCC Part 15, Subpart B****5.1.1 Summary of Tests:**

<b>Section</b>	<b>Environmental Phenomena</b>	<b>Frequency Range (MHz)</b>	<b>Result</b>
15.203	Antenna Requirements	Structural requirement	Complied
15.207	Conducted Disturbance at Mains Ports	0.15 to 30	Complied
15.225(a)	Field Strength	13.553 – 13.567	Complied
15.225(b)	Field Strength	13.410 -13.553 13.567 – 13.710	Complied
15.225(c)	Field Strength	13.110 – 13.410 13.710 – 14.010	Complied
15.225(d)	Field Strength	0.009 – 13.110 14.010 - 1000	Complied
15.225(e)	Frequency Stability	13.110 – 14.010	Complied
15.225(f)	RFID Tag	13.110 – 14.010	Complied

**5.2 Result**

In the configuration tested, the EUT complied with the requirements of the specification.

**SECTION 6.0 MEASUREMENTS, EXAMINATIONS AND DERIVED RESULTS****6.1 General Comments:**

This section contains the test results only. Details of the test methods used and a list of the test equipment used during the measurements can be found in Appendix 1 of this report.

**6.2 Test Results:****6.2.1 §15.203 Antenna Requirements:**

The antenna is an etched portion of the PCB and cannot be replaced by the user.

**Result**

The EUT complies with the requirements.

**6.2.2 §15.207 Conducted Disturbance at the AC Mains Ports****6.2.2.1 Hot Lead**

Frequency (MHz)	Detector	Measured Level (dBμV)	Class B Limit (dBμV)	Margin (dB)
1.10	Quasi-Peak (Note 2)	42.4	56.0	-13.6
1.10	Average (Note 2)	30.9	46.0	-15.1
2.75	Quasi-Peak (Note 2)	43.2	56.0	-12.8
2.75	Average (Note 2)	33.5	46.0	-12.5
3.21	Quasi-Peak (Note 2)	43.3	56.0	-12.7
3.21	Average (Note 2)	33.6	46.0	-12.4
3.52	Quasi-Peak (Note 2)	41.6	56.0	-14.4
3.52	Average (Note 2)	32.2	46.0	-13.8
3.82	Quasi-Peak (Note 2)	42.3	56.0	-13.7
3.82	Average (Note 2)	33.1	46.0	-12.9
4.62	Quasi-Peak (Note 2)	43.0	56.0	-13.0
4.62	Average (Note 2)	32.7	46.0	-13.3

Frequency (MHz)	Detector	Measured Level (dBμV)	Class B Limit (dBμV)	Margin (dB)
Note 1: The reference detector used for the measurements was Quasi-Peak or Peak and the data was compared to the average limit; therefore, the EUT was deemed to meet both the average and quasi-peak limits.				
Note 2: The reference detector used for the measurements was quasi-peak and average and the data was compared to the respective limits.				

**Result**

The EUT complied with the requirements by 12.4 dB.

**6.2.2.2 Neutral Lead**

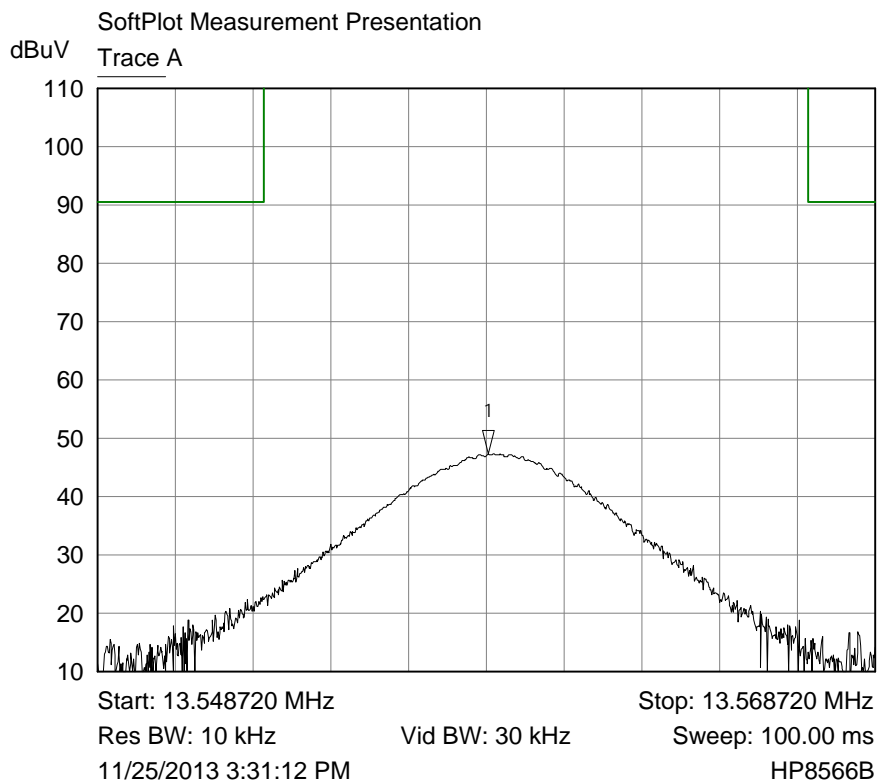
Frequency (MHz)	Detector	Measured Level (dBμV)	Class B Limit (dBμV)	Margin (dB)
0.19	Quasi-Peak (Note 2)	51.2	63.9	-12.7
0.19	Average (Note 2)	32.2	53.9	-21.7
2.79	Quasi-Peak (Note 2)	40.0	56.0	-16.0
2.79	Average (Note 2)	28.6	46.0	-17.4
3.29	Quasi-Peak (Note 2)	40.3	56.0	-15.7
3.29	Average (Note 2)	27.5	46.0	-18.5
3.57	Quasi-Peak (Note 2)	39.9	56.0	-16.1
3.57	Average (Note 2)	27.2	46.0	-18.8
4.45	Quasi-Peak (Note 2)	40.0	56.0	-16.0
4.45	Average (Note 2)	27.7	46.0	-18.3
4.62	Quasi-Peak (Note 2)	40.3	56.0	-15.7
4.62	Average (Note 2)	28.1	46.0	-17.9
Note 1: The reference detector used for the measurements was Quasi-Peak or Peak and the data was compared to the average limit; therefore, the EUT was deemed to meet both the average and quasi-peak limits.				
Note 2: The reference detector used for the measurements was quasi-peak and average and the data was compared to the respective limits.				

**Result**

The EUT complied with the requirements by 12.7 dB.

**6.2.3 §15.225 (a) – (c) Radiated Disturbance Data (13.110 – 14.010 MHz)**

The plots below show the fundamental frequency compared to the limits of FCC §15.225 (a) – (c). There were no other emissions from the EUT seen in the range of 13.110 MHz to 14.010 MHz.



Mkr	X-Axis	Value	Notes
1 ▽	13.558760 MHz	47.3000 dBuV	

**Result**

The EUT complied with the specifications for emissions in the band 13.110 to 14.010 MHz.

**6.2.4 §15.225 (d) Radiated Disturbance Data (4 MHz – 136 MHz, excluding the range 13.110 – 14.010 MHz)**

The transmitter was tested for spurious emissions from 0.009 MHz to 5000 MHz using the limits of §15.209. The worst-case emission test data is shown in the table below. The EUT was also tested for emissions from the digital circuitry of the device using the limits of §15.209 and was found to be compliant. The results of this testing is shown in Nemko-CCL, Inc. report 248668-2.

Frequency (MHz)	Detector	Receiver Reading (dBμV)	Correction Factor (dB/m)	Field Strength (dBμV/m)	3 m Limit (dBμV/m)	Margin (dB)
27.1	Peak (Note 1, 2, & 3)	8.3	11.8	20.1	69.5	-49.4
40.7	Peak (Note 1)	4.5	13.9	18.4	40.0	-21.6
54.2	Peak (Note 1)	2.5	10.2	12.7	40.0	-27.3
67.8	Peak (Note 1)	5.6	8.4	14.0	40.0	-26.0
81.4	Peak (Note 1)	2.0	9.0	11.0	40.0	-29.0
94.9	Peak (Note 1)	12.8	10.6	23.4	43.5	-20.1
108.5	Peak (Note 1)	7.1	10.6	17.7	43.5	-25.8
122.0	Peak (Note 1)	2.1	9.8	11.9	43.5	-31.6
135.6	Peak (Note 1)	4.9	10.1	15.0	43.5	-28.5
176.3	Peak (Note 1)	15.8	12.0	27.8	43.5	-15.7
284.8	Peak (Note 1)	10.1	16.9	27.0	46.0	-19.0
393.2	Peak (Note 1)	6.7	21.5	28.2	46.0	-17.8
<p>Note 1: The reference detector used for the measurements was peak or quasi-peak and the data was compared to the quasi-peak limit.</p> <p>Note 2: Active Loop antenna was used for these measurements</p> <p>Note 3: At frequencies below 30 MHz, the measurement distance was 3 meters and the limit adjusted accordingly using an inverse proportionality factor of 40 dB per decade. At frequencies above 30 MHz, the measurement distance was 3 meters.</p>						

**Result**

The EUT complied with the specification for emissions outside the band 13.110 to 14.010 MHz by 15.7 dB.

**6.2.5 Sample Field Strength Calculation:**

The field strength is calculated by adding the Correction Factor (Antenna Factor + Cable Factor), to the measured level from the receiver. The receiver amplitude reading is compensated for any amplifier gain. The basic equation with a sample calculation is shown below:

$$FS = RA + CF$$

FS = Field Strength

RA = Receiver Amplitude Reading (Receiver Reading - Amplifier Gain)

CF = Correction Factor (Antenna Factor + Cable Factor)

Assume a receiver reading of 44.2 dB $\mu$ V is obtained from the receiver, an amplifier gain of 8.6 dB and a correction factor of 17.5 dB/m. The field strength is calculated by subtracting the amplifier gain and adding the correction factor, giving a field strength of 53.1 dB $\mu$ V/m, FS = (44.2 – 8.6) + 17.5 = 53.1 dB $\mu$ V/m.

**6.2.6 §15.225(e) Frequency Stability**

The EUT was tested for frequency stability as specified in §15.225(e).

Time	+20°C	+50°C	-20°C
Start	13,559,358	13,559,343	13,559,360
2 minutes	13,559,352	13,559,345	13,559,358
5 minutes	13,559,356	13,559,350	13,559,358
10 Minutes	13,559,357	13,559,348	13,559,352

120 VAC/+20°C	102 VAC/+20°C	138 VAC/+20°C
13,559,357	13,559,358	13,559,358

**Result**

The EUT complied with the specification as the fundamental frequency drifted from 13,559,352 Hz to 13,559,360 Hz, a total drift of 8 Hz.

**APPENDIX 1 TEST PROCEDURES AND TEST EQUIPMENT****A1.1 Conducted Disturbance at Mains Ports:**

The conducted disturbance at mains ports from the EUT was measured using a spectrum analyzer with a quasi-peak adapter for peak, quasi-peak and average readings. The quasi-peak adapter uses a bandwidth of 9 KHz, with the spectrum analyzer's resolution bandwidth set at 100 kHz, for readings in the 150 kHz to 30 MHz frequency ranges.

The conducted disturbance at mains ports measurements are performed in a screen room using a (50  $\Omega$ /50  $\mu$ H) Line Impedance Stabilization Network (LISN).

Where the mains flexible power cords are longer than 1m, the excess cable is folded back and forth as far as possible so as to form a bundle not exceeding 0.4 m in length.

Where the EUT is a collection of devices with each device having its own power cord, the point of connection for the LISN is determined from the following rules:

- (a) Each power cord, which is terminated in a mains supply plug, shall be tested separately.
- (b) Power cords, which are not specified by the manufacturer to be connected via a host unit, shall be tested separately.
- (c) Power cords which are specified by the manufacturer to be connected via a host unit or other power supplying equipment shall be connected to that host unit and the power cords of that host unit connected to the LISN and tested.
- (d) Where a special connection is specified, the necessary hardware to effect the connection is supplied by the manufacturer for the testing purpose.
- (e) When testing equipment with multiple mains cords, those cords not under test are connected to an artificial mains network (AMN) different than the AMN used for the mains cord under test.

For AC mains port testing, desktop EUT are placed on a non-conducting table at least 0.8 meters from the metallic floor and placed 40 cm from the vertical coupling plane (copper plating in the wall behind EUT table). Floor standing equipment is placed directly on the earth grounded floor.

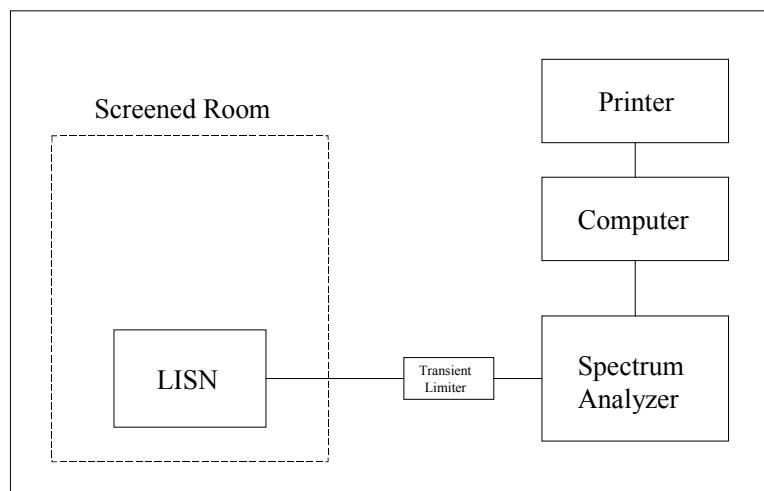
Type of Equipment	Manufacturer	Model Number	Serial Number	Date of Last Calibration	Due Date of Calibration
Wanship Open Area Test Site #2	Nemko-CCL, Inc.	N/A	N/A	12/07/2012	12/07/2013
Test Software	Nemko-CCL, Inc.	Conducted Emissions	Revision 1.2	N/A	N/A
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711	02/06/2013	02/06/2014



Type of Equipment	Manufacturer	Model Number	Serial Number	Date of Last Calibration	Due Date of Calibration
Quasi-Peak Detector	Hewlett Packard	85650A	2043A00137	02/06/2013	02/06/2014
LISN	EMCO	3825/2	9305-2099	03/12/2013	03/12/2014
Conductance Cable Wanship Site #2	Nemko-CCL, Inc.	Cable J	N/A	12/21/2012	12/21/2013
Transient Limiter	Hewlett Packard	11947A	3107A02266	12/21/2012	12/21/2013

An independent calibration laboratory or Nemko-CCL, Inc. personnel calibrates all the equipment listed above at intervals defined in ANSI C63.4:2003 Section 4.4 following outlined calibration procedures. All measurement instrumentation is traceable to the National Institute of Standards Technology (NIST). Supporting documentation relative to traceability is on file and available for examination upon request.

#### Conducted Emissions Test Setup



**A1.2 Radiated Disturbance:**

The radiated disturbance from 30 MHz to 1000 MHz from the EUT was measured using a spectrum analyzer with a quasi-peak adapter for peak and quasi-peak readings.

A loop antenna was used to measure emissions below 30 MHz. Emission readings more than 20 dB below the limit at any frequency may not be listed in the reported data. For frequencies between 9 kHz and 30 MHz, or the lowest frequency generated or used in the device greater than 9 kHz, and less than 30 MHz, the spectrum analyzer resolution bandwidth was set to 9 kHz and the video bandwidth was set to 30 kHz. For average measurements, the spectrum analyzer average detector was used.

For frequencies above 30 MHz, an amplifier and preamplifier were used to increase the sensitivity of the measuring instrumentation. The quasi-peak adapter uses a bandwidth of 120 kHz, with the spectrum analyzer's resolution bandwidth set at 1 MHz, for readings in the 30 to 1000 MHz frequency ranges. For peak emissions above 1000 MHz the spectrum analyzer's resolution bandwidth was set to 1 MHz and the video bandwidth was set to 3 MHz. For average measurements above 1000 MHz the spectrum analyzer's resolution bandwidth was set to 1 MHz and the average detector of the analyzer was used.

A biconilog antenna was used to measure the frequency range of 30 to 1000 MHz and a Double Ridge Guide Horn antenna was used to measure the frequency range of 1 GHz to 18 GHz, and a Pyramidal Horn antenna was used to measure the frequency range of 18 GHz to 25 GHz, at a distance of 3 meters and 1 meter from the EUT. The readings obtained by the antenna are correlated to the levels obtained with a tuned dipole antenna by adding antenna factors.

The configuration of the EUT was varied to find the maximum radiated emission. The EUT was connected to the peripherals listed in Section 2.3 via the interconnecting cables listed in Section 2.4. A technician manually manipulated these interconnecting cables to obtain worst-case radiated disturbance. The EUT was rotated 360 degrees, and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission. Where there were multiple interface ports all of the same type, cables are either placed on all of the ports or cables are added to these ports until the emissions do not increase by more than 2 dB.

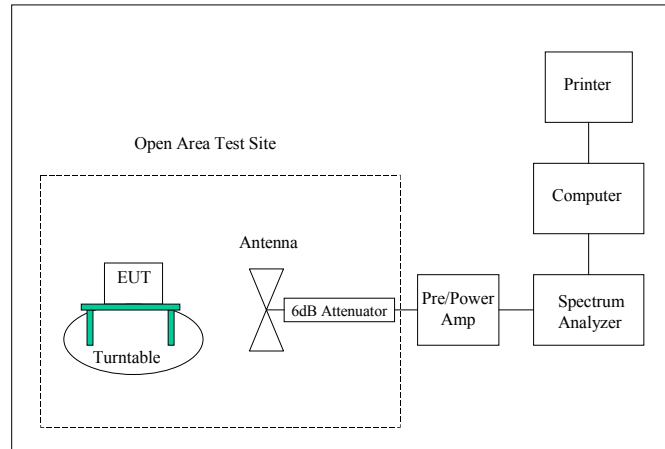
Desktop EUT are measured on a non-conducting table 0.8 meters above the ground plane. The table is placed on a turntable, which is level with the ground plane. For equipment normally placed on floors, the equipment shall be placed directly on the turntable.

For radiated emission testing at 30 MHz or above that is performed at distances closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

Type of Equipment	Manufacturer	Model Number	Serial Number	Date of Last Calibration	Due Date of Calibration
Wanship Open Area Test Site #2	Nemko-CCL, Inc.	N/A	N/A	12/07/2012	12/07/2013
Test Software	Nemko-CCL, Inc.	Radiated Emissions	Revision 1.3	N/A	N/A
Spectrum Analyzer/Receiver	Rohde & Schwarz	ESU40	100064	07/24/2013	07/24/2014
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711	02/06/2013	02/06/2014
Quasi-Peak Detector	Hewlett Packard	85650A	2043A00137	02/06/2013	02/06/2014
Loop Antenna	EMCO	6502	9111-2675	03/04/2013	03/04/2015
Biconilog Antenna	EMCO	3142	9601-1008	10/10/2012	10/10/2014
Double Ridged Guide Antenna	EMCO	3115	9409-4355	06/06/2012	06/06/2014
High Frequency Amplifier	Miteq	AFS4-01001800-43-10P-4	1096455	05/06/2013	05/06/2014
20' High Frequency Cable	Microcoax	UFB197C-1-3120-000000	1297	05/02/2013	05/02/2014
3 Meter Radiated Emissions Cable Wanship Site #2	Microcoax	UFB205A-0-4700-000000	1295	05/02/2013	05/02/2014
Pre/Power-Amplifier	Hewlett Packard	8447F	3113A05161	08/26/2013	08/26/2014
6 dB Attenuator	Hewlett Packard	8491A	32835	12/21/2012	12/21/2013

An independent calibration laboratory or Nemko-CCL, Inc. personnel calibrates all the equipment listed above at intervals defined in ANSI C63.4:2003 Section 4.4 following outlined calibration procedures. All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to tractability is on file and is available for examination upon request.

Radiated Emissions Test Setup



**APPENDIX 2 PHOTOGRAPHS**

Photograph 1 – Front View Radiated Disturbance Worst Case Configuration



Photograph 2 – Back View Radiated Disturbance Worst Case Configuration



Photograph 3 – Front View Conducted Disturbance Worst Case Configuration



Photograph 4 – Back View Conducted Disturbance Worst Case Configuration





Photograph 5 – Front View of the EUT



Photograph 6 – Back View of the EUT



Photograph 7 – View of the Power and USB Ports of the EUT



Photograph 8 – View of the EUT Opened



Photograph 9 – Location of the PCBs Except Power PCB



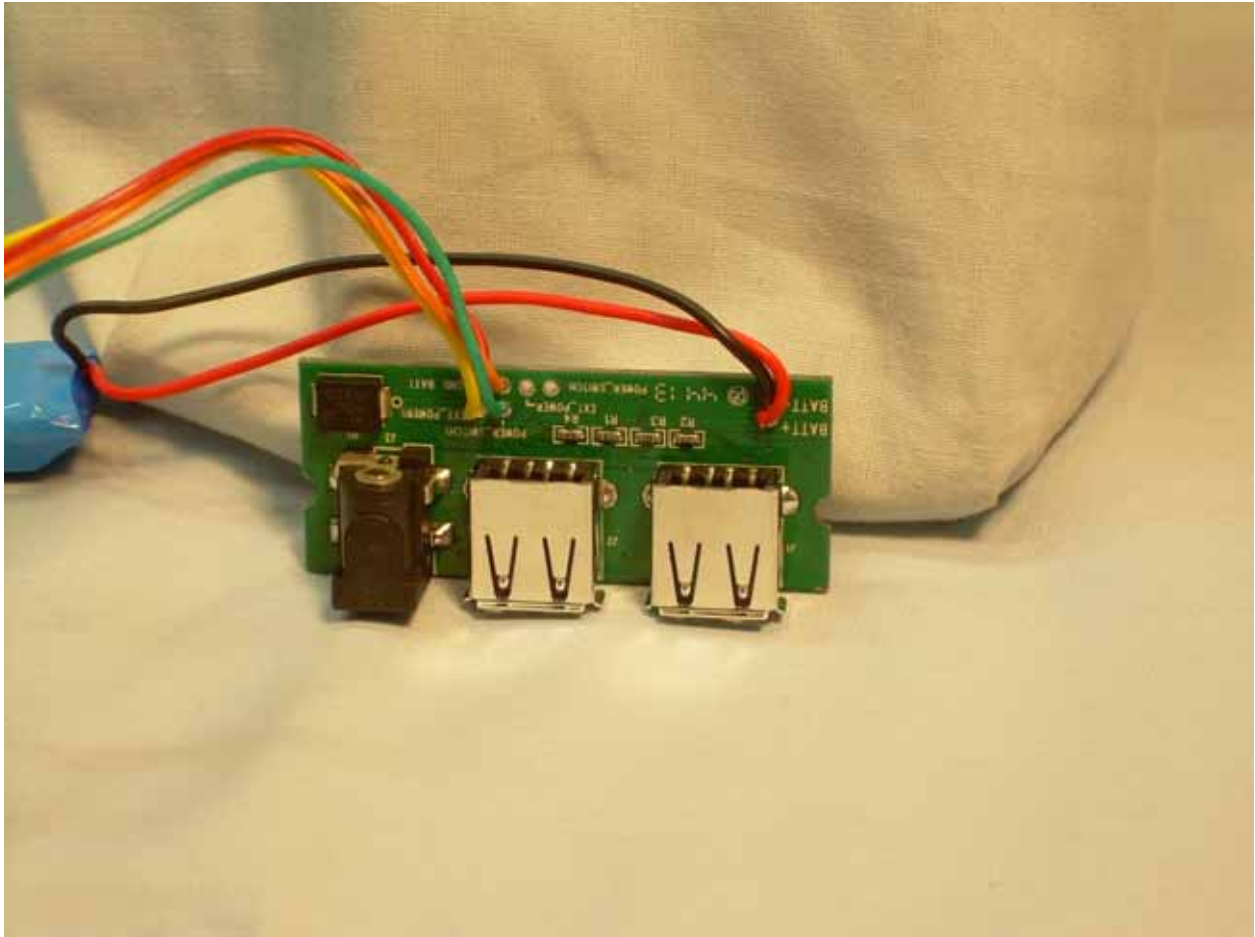
Photograph 10 – View of the Power PCB in the EUT



Photograph 11 – View of the Power Supply with Molded on Ferrite

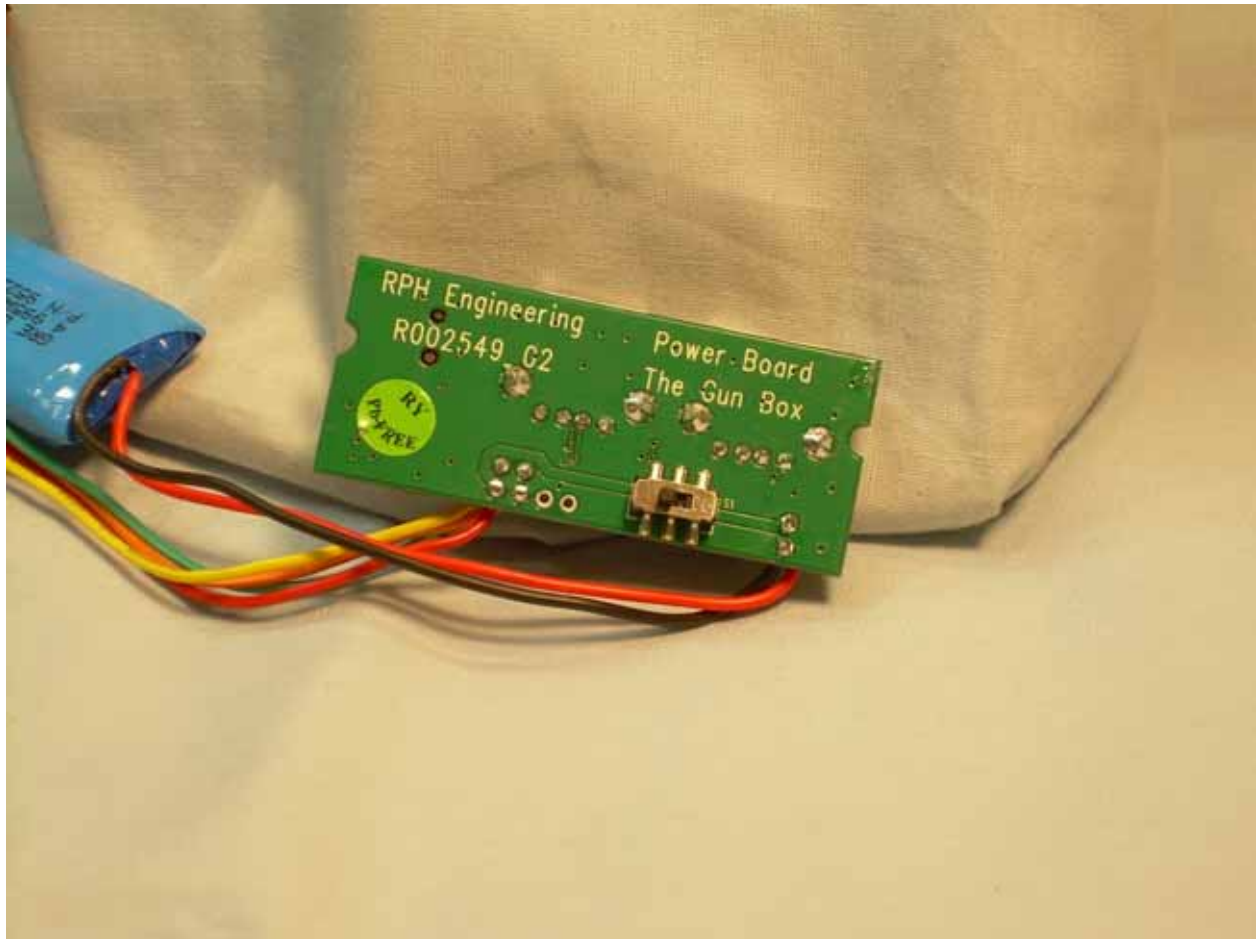


Photograph 12 – View of the Component Side of the Power PCB

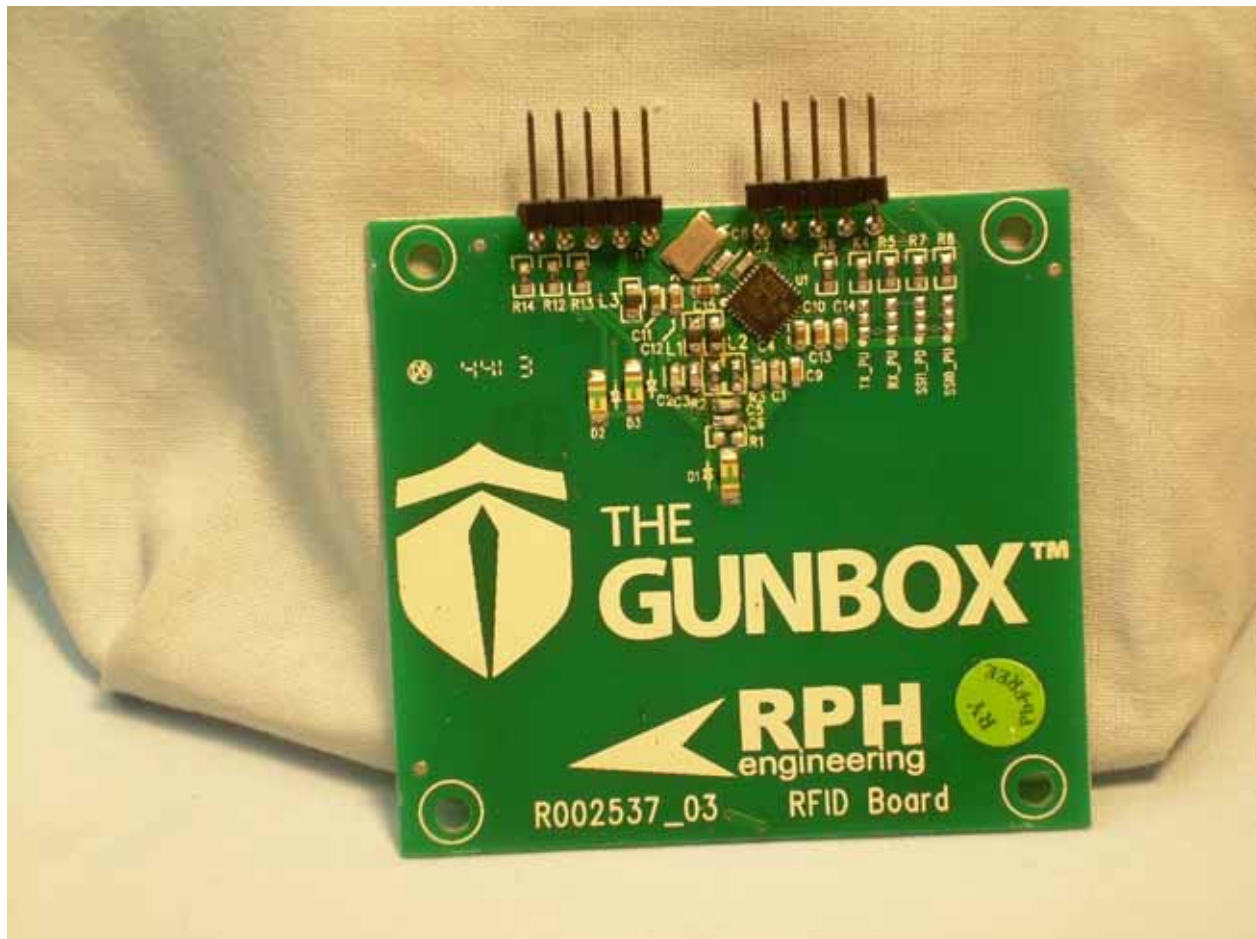




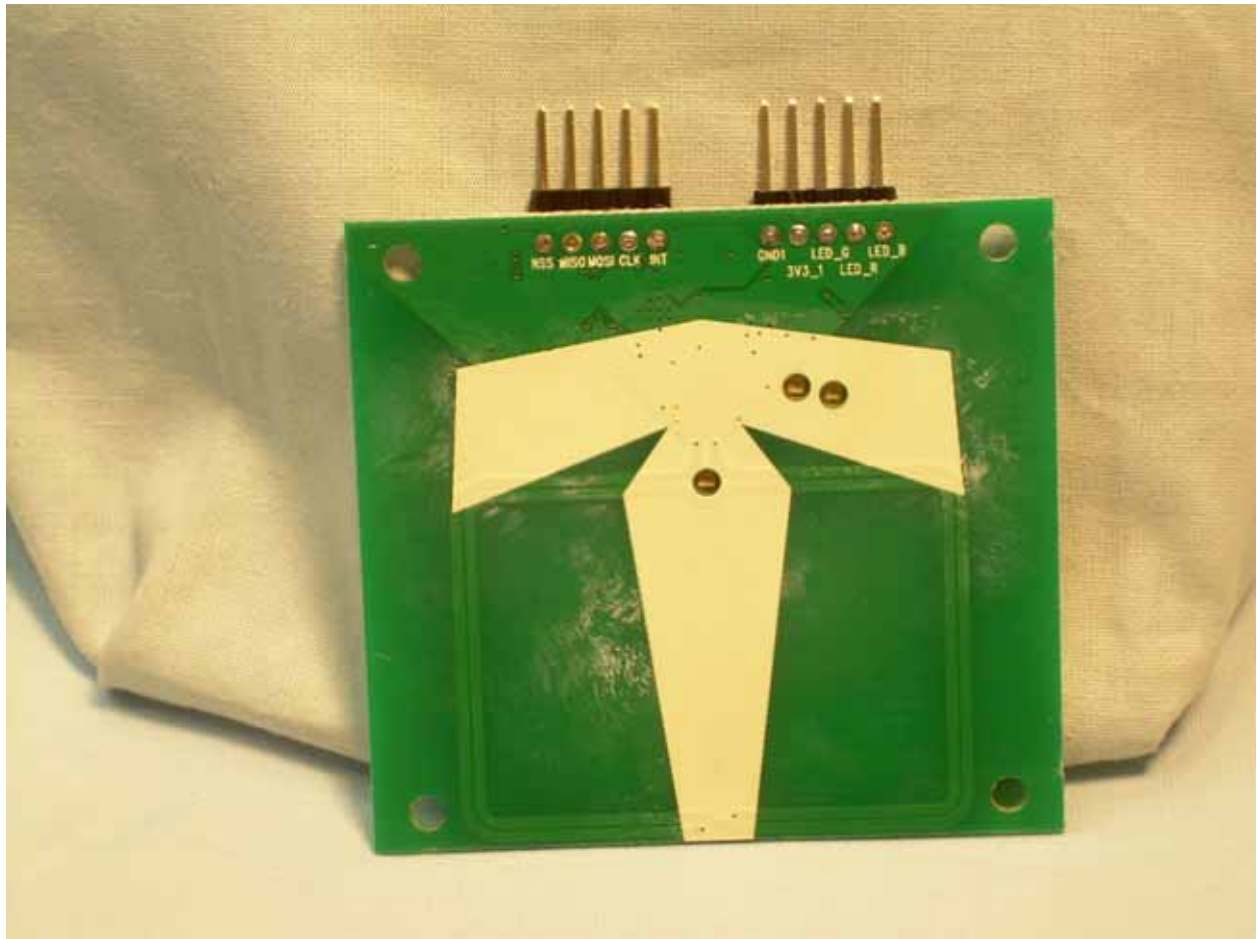
Photograph 13 – View of the Trace Side of the Power PCB



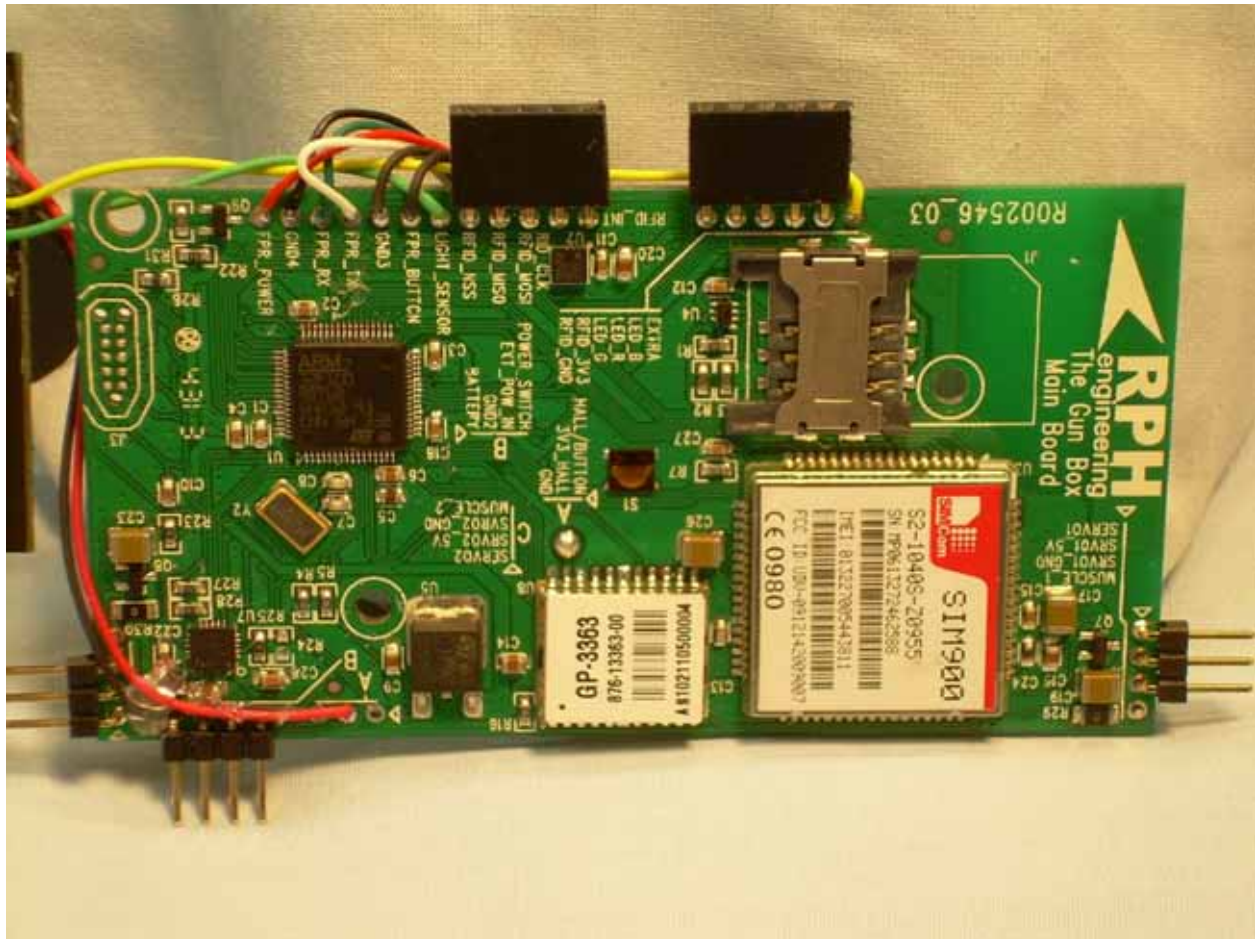
Photograph 14 – View of the Component Side of the RFID PCB



Photograph 15 – View of the Trace Side of the RFID PCB

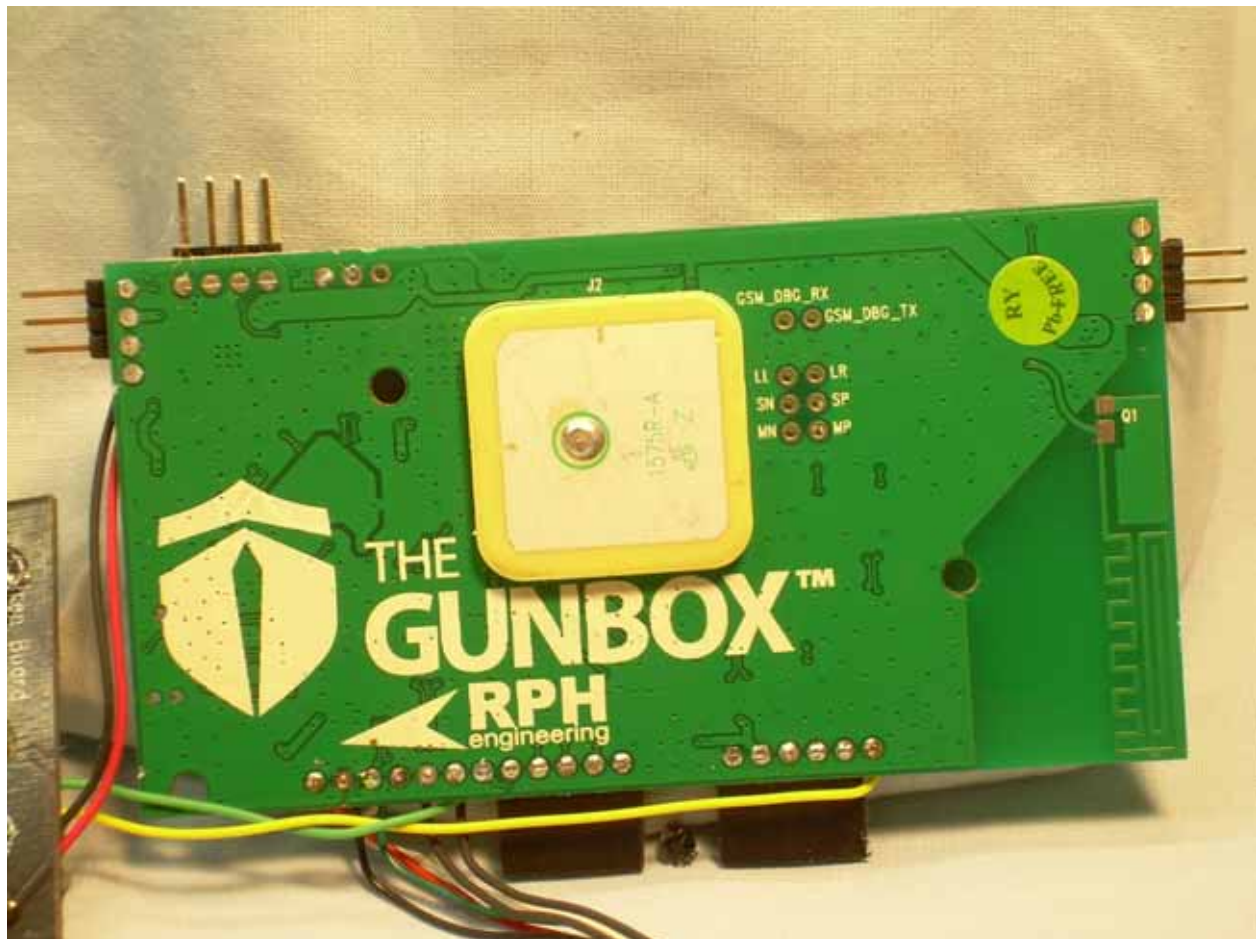


Photograph 16 – View of the Component Side of the Main PCB

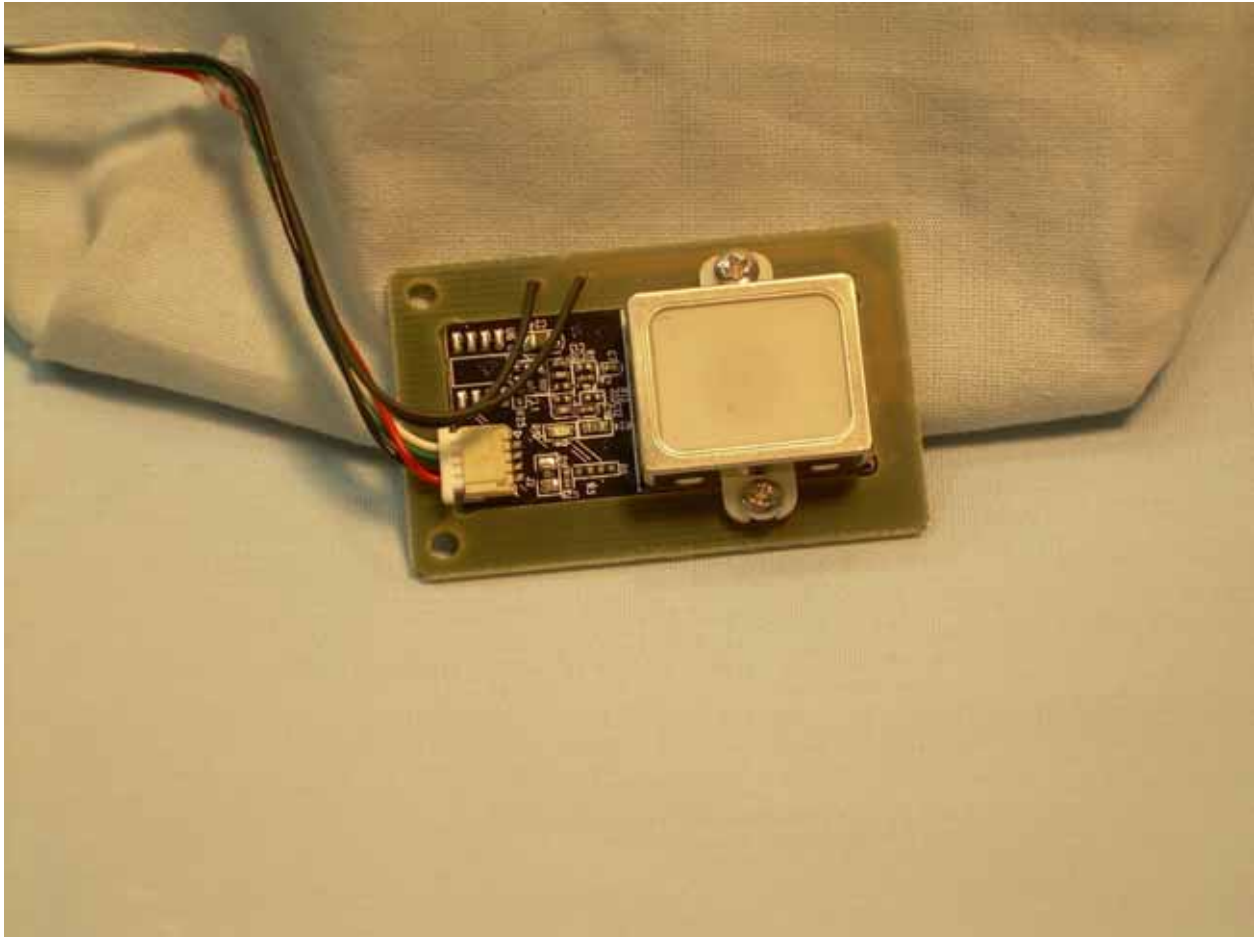




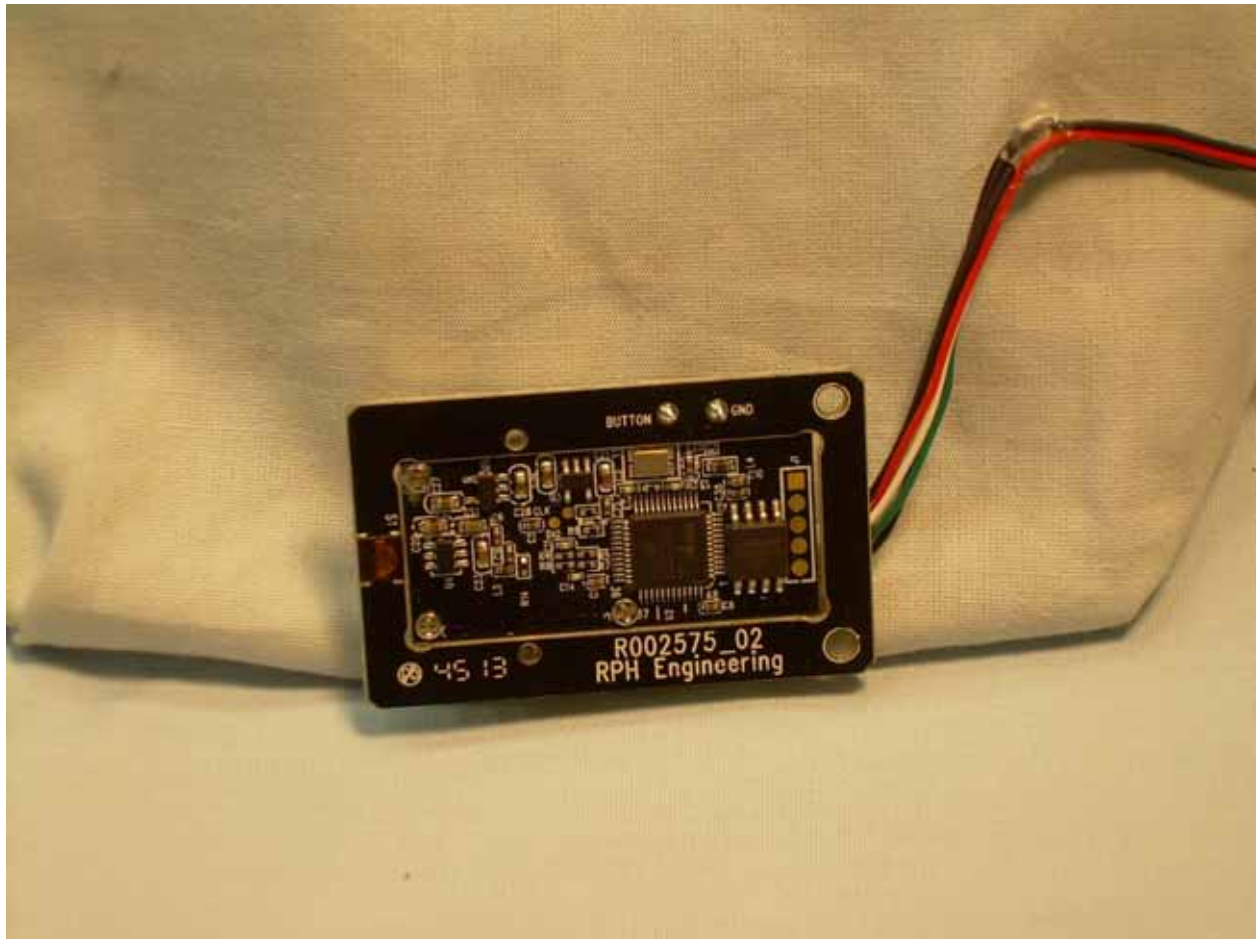
Photograph 17 – View of the Trace Side of the Main PCB



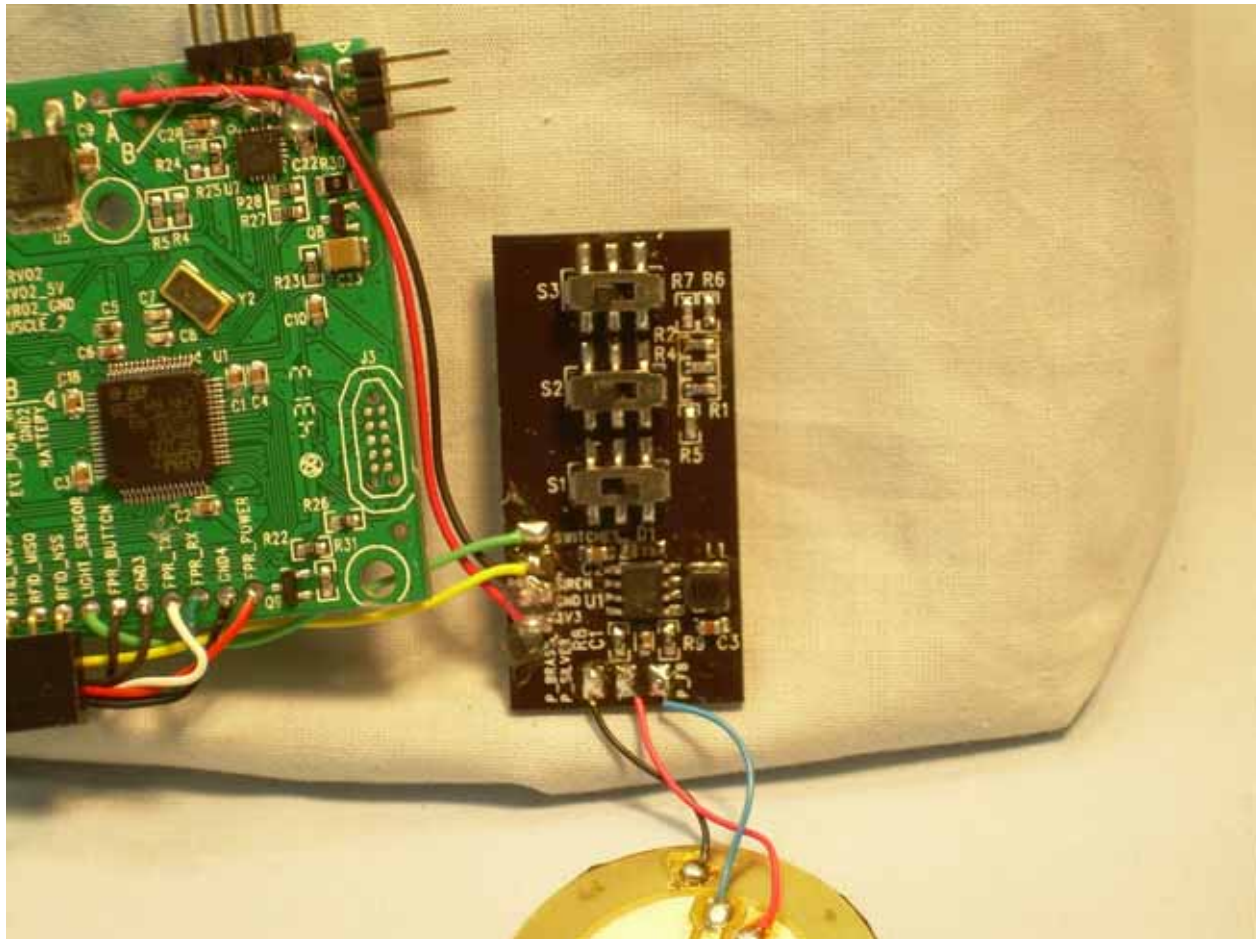
Photograph 18 – View of the Component Side of the Fingerprint PCB



Photograph 19 – View of the Trace Side of the Fingerprint PCB

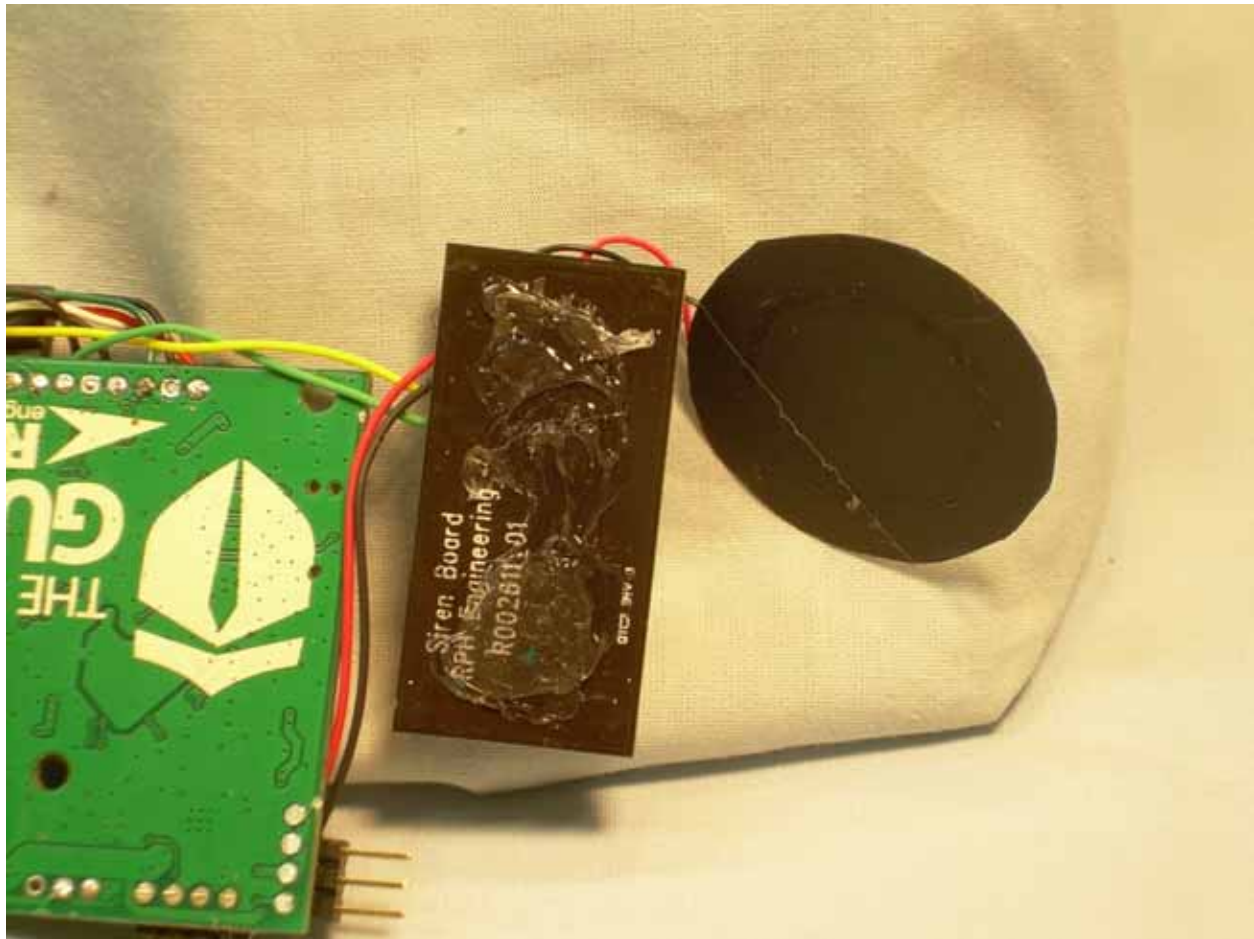


Photograph 20 – View of the Component Side of the Siren PCB





Photograph 21 – View of the Trace Side of the Siren PCB



Photograph 22 – View of the Passive RFID Tag

