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Test Report

Certification

FCC ID	2ANAC-ER002
Equipment Under Test	IRXP-OE
Test Report Serial No	V048671_02
Dates of Test	July 25 and 30, 2019 and August 1, 2019
Report Issue Date	August 6, 2019

Test Specifications:	Applicant:
FCC Part 15, Subpart C	Essex Electronics 1130 Mark Street Carpinteria, CA 93013 U.S.A.

Testing
NVLAP Lab Code 100272-0

Certification of Engineering Report

This report has been prepared by VPI Laboratories, 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 of this report may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

Applicant	Essex Electronics
Manufacturer	Essex Electronics
Brand Name	Essex
Model Number	IRXP-OE
FCC ID	2ANAC-ER002

On this 6th day of August 2019, I, individually and for VPI Laboratories, 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 VPI Laboratories, 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.

VPI Laboratories, Inc.

Norman P Hansen

Tested by: Norman P. Hansen

Benjamin Antczak

Reviewed by: Benjamin N. Antczak

Revision History		
Revision	**Description**	**Date**
01	Original Report Release	August 6, 2019
02	Change FCC ID to reflect label and 731 form	August 27, 2019

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1 Client Information

1.1 Applicant

Company Name	Essex Electronics 1130 Mark Street Carpinteria, CA 93013 U.S.A.
Contact Name	Steve Petree
Title	Engineering Technician

1.2 Manufacturer

Company Name	Essex Electronics 1130 Mark Street Carpinteria, CA 93013 U.S.A.
Contact Name	Steve Petree
Title	Engineering Technician

2 Equipment Under Test (EUT)

2.1 Identification of EUT

Brand Name	Essex
Model Number	IRXP-OE
Serial Number	None
Dimensions (cm)	7.0 x 9.0 x 1.3

2.2 Description of EUT

The IRXP-OE is an interface board used in access control systems using RFID/NFC readers and a BLE transceiver. The board is powered by a host system but for testing purposes, was powered by a Phihong PSA05A-050 power supply providing 5 VDC to the system. The IRXP-OE contains a 125 MHz transmitter, a 13.56 MHz transmitter, and a BLE transceiver operating in the 2400 MHz to 2483.5 MHz ISM frequency band.

The 125 kHz transmitter is used with passive tags. The tags were used to modulate the emission when required in testing. The 125 kHz transmitter uses an Essex Electronics RAN07 coil antenna.

This report covers the transmitter circuitry of the devices subject to FCC Part 15, Subpart C, §15.209. The circuitry of the device subject to FCC Subpart B was found to be compliant and is covered in VPI Laboratories, Inc. report V048670. The Bluetooth LE transceiver and 13.56 MHz transmitter are covered in separate testing and reports.

2.3 EUT and Support Equipment

The EUT and support equipment used during the test are listed below.

Brand Name Model Number Serial Number	Description	Name of Interface Ports / Interface Cables
BN: Essex MN: IRXP-OE (Note 1) SN: None	Access control board	See Section 2.4
BN: Phihong MN: PSA05A-050 SN: None	Power supply	DC out/2 conductors
BN: Essex MN: Power/data interface card SN: None	Interface card/Host simulator	Card Interface/4 conductors (Note 2) Serial/DB9 connector with serial cable Power/2 Conductors
BN: Dell MN: Vostro SN: None	Computer	USB/USB cable with header interface and USB to serial adapter cable

Notes: (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 Description/Length
Power/data	1	4 conductors/12 cm

2.5 Modification Incorporated/Special Accessories on EUT

There were no modifications or special accessories required to comply with the specification.

2.6 Deviation from Test Standard

There were no deviations from the test specification.

3 Test Specification, Methods and Procedures

3.1 Test Specification

Title	FCC PART 15, Subpart C (47 CFR 15) 15.203, 15.207, and 15.209 Limits and methods of measurement of radio interference characteristics of radio frequency devices.
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 μH/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 boundary between the frequency ranges.

Frequency range (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 to 0.50*	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

*Decreases with the logarithm of the frequency.

Table 1: Limits for conducted emissions at mains ports of Class B ITE.

3.2.3 §15.209 Radiated Emission Limits; General Limits

(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F (kHz)	300
0.490 – 1.705	24000/F (kHz)	30
1.705 – 30	30	30
30 – 88	100**	3
88 – 216	150**	3
216 - 960	200**	3
Above 960	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

(b) In the emission table above, the tighter limit applies at the band edges.

(c) The level of any unwanted emissions from an intentional radiator operating under these general provisions shall not exceed the level of the fundamental emission. For intentional radiators which operate under the provisions of other sections within this part and which are required to reduce their unwanted emissions to the limits specified in this table, the limits in this table are based on the frequency of the unwanted emission and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

(d) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

(e) The provisions in §§15.31, 15.33, and 15.35 for measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

(f) In accordance with §15.33(a), in some cases the emissions from an intentional radiator must be measured to beyond the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator because of the incorporation of a digital device. If measurements above the tenth harmonic are so required, the radiated emissions above the tenth harmonic shall comply with the general radiated emission limits applicable to the incorporated digital device, as shown in §15.109 and as based on the frequency of the emission being measured, or, except for emissions contained in the restricted frequency bands shown in §15.205, the limit on spurious emissions specified for the intentional radiator, whichever is the higher limit. Emissions which must be measured above the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator and which fall within the restricted bands shall comply with the general radiated emission limits in §15.109 that are applicable to the incorporated digital device.

(g) Perimeter protection systems may operate in the 54-72 MHz and 76-88 MHz bands under the provisions of this section. The use of such perimeter protection systems is limited to industrial, business and commercial applications.

3.3 Test Procedure

VPI Laboratories, Inc. is accredited by National Voluntary Laboratory Accreditation Program (NVLAP); NVLAP Lab Code: 100272-0, which is effective until September 30, 2019. VPI Laboratories, Inc. carries FCC Accreditation Designation Number US5263. VPI Laboratories main office is located at 313 W 12800 S, Suite 311, Draper, UT 84020. The testing was performed according to the procedures in ANSI C63.10-2013 and 47 CFR Part 15. Testing was performed at the VPI Laboratories, Inc. Wanship Upper Open Area Test Site, located at 29145 Old Lincoln Highway, Wanship, UT. This location is listed on NVLAP scope under the lines for C63.4 and C63.10.

4 Operation of EUT During Testing

4.1 Operating Environment

Power Supply	120 VAC/60 Hz to power supply that provided 5 VDC to the EUT

4.2 Operating Modes

The transmitter was tested on 3 orthogonal axes while in a constant transmit mode. The other transmitters in the device were active transmitting in the 2400 – 2483.5 MHz band and 13.56 MHz. The voltage to the EUT was varied as required by §15.31(e) with no change seen in the transmitter characteristics.

4.3 EUT Exercise Software

Internal firmware was used to activate the 13.56 MHz and 125 kHz transmitters. HID Global test software was used to exercise the Bluetooth LE module.

5 Summary of Test Results

5.1 FCC Part 15, Subpart C

5.1.1 Summary of Tests

Section	Environmental Phenomena	Frequency Range (MHz)	Result
15.203	Antenna Requirements	Structural requirement	Complied
15.207	Conducted Disturbance at Mains Ports	0.15 to 30	Complied
15.209	Fundamental Emissions	0.125	Complied
15.209	Spurious Emission	0.009 - 12400	Complied
--	Emission Bandwidth	0.125	Reported

5.2 Result

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

6 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 Section 7 of this report.

6.2 Test Results

6.2.1 §15.203 Antenna Requirements

The 125 kHz transmitter antenna is a coil, approximately 720 uH, and 1 inch diameter. The antenna feed lines are soldered to the card reader module.

Result

The EUT complied with the specification.

6.2.2 §15.207 Conducted Emissions at AC Mains Ports

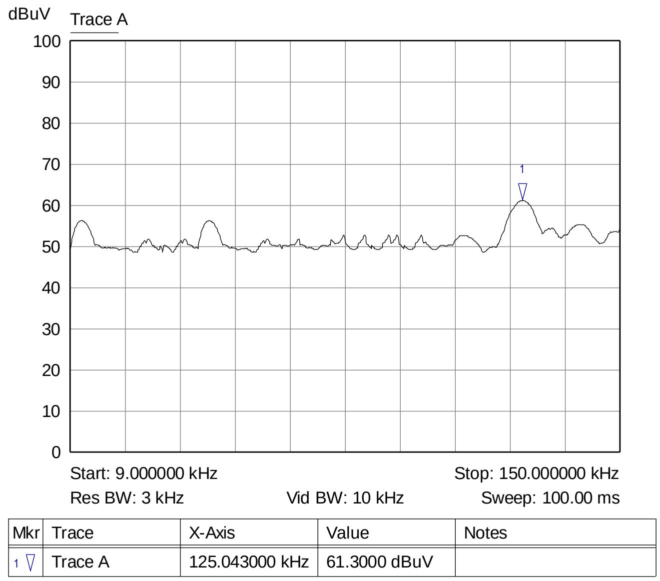
Frequency (MHz)	AC Mains Lead	Detector	Measured Level (dBμV)	Limit (dBμV)	Margin (dB)
0.75	Hot Lead	Peak (Note 1)	32.3	46.0	-13.7
0.85	Hot Lead	Peak (Note 1)	34.0	46.0	-12.0
0.96	Hot Lead	Peak (Note 1)	33.5	46.0	-12.5
18.25	Hot Lead	Peak (Note 1)	36.6	50.0	-13.4
18.98	Hot Lead	Peak (Note 1)	36.8	50.0	-13.2
19.75	Hot Lead	Peak (Note 1)	36.2	50.0	-13.8
0.33	Neutral Lead	Peak (Note 1)	35.8	49.6	-13.8
0.75	Neutral Lead	Peak (Note 1)	33.2	46.0	-12.8
0.85	Neutral Lead	Peak (Note 1)	33.9	46.0	-12.1
4.54	Neutral Lead	Peak (Note 1)	32.0	46.0	-14.0
18.38	Neutral Lead	Peak (Note 1)	37.3	50.0	-12.7
19.10	Neutral Lead	Peak (Note 1)	37.1	50.0	-12.9
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 specification limit by a margin of 12.0 dB.

6.2.3 §15.209 Fundamental Field Strength

The fundamental emission is at 125 kHz which is not in a restricted band. The plot below shows the fundamental emission, measured at 3 meters using peak detection. The table summarizes the data. The measured emission was normalized to the limit specified at a 300 meter distance. A normalization factor of 40 dB/decade was used.



Graph 1: Plot of Fundamental Frequency

Frequency (kHz)	Detector	Receiver Reading (dBμV)	Correction Factor (dB/m)	Field Strength at 3 meters (dBμV/m)	Field Strength Normalized to 300 m (dBμV/m)	300 m Limit (dBμV/m)	Margin (dB)
125	Peak	50.0	11.3	61.3	-18.7	25.7	-44.4

Result

The EUT complied with the specification.

6.2.4 §15.209 Spurious Emissions

The spurious emissions and harmonic emissions were measured from 0.009 MHz – 12400 MHz. The table below shows the emissions from the transmitter. Measurements were made at 3 meter distance and the measurement was normalized to the distance the limit is specified using 40 dB/decade for emissions below 30 MHz. Emissions reported are from the transmitter operating at 125 kHz. Emissions from the 13.56 MHz and Bluetooth LE transceiver, as well as the digital circuitry subject to Subpart B, are reported in other reports.

Frequency (MHz)	Detector	Antenna Polarity	Receiver Reading (dBμV)	Correction Factor (dB)	Field Strength at 3 meters (dBμV/m)	Normalized Field Strength (dBμV/m)	Limit	Margin (dB)
0.250	Peak	Vertical	33.8	11.3	45.1	-34.9 (Note 1)	19.6	-54.5
0.375	Peak	Vertical	32.6	11.3	43.9	-36.1 (Note 1)	16.1	-52.2

Frequency (MHz)	Detector	Antenna Polarity	Receiver Reading (dBµV)	Correction Factor (dB)	Field Strength at 3 meters (dBµV/m)	Normalized Field Strength (dBµV/m)	Limit	Margin (dB)
0.500	Peak	Vertical	30.1	11.4	41.5	1.5 (Note 2)	33.6	-32.1
0.750	Peak	Vertical	28.2	11.4	39.6	-0.4 (Note 2)	30.1	-30.5
12.375	Peak	Vertical	26.3	10.6	36.9	-3.1 (Note 2)	29.5	-32.6
30.875	Peak	Horizontal	3.5	22.3	25.8	25.8	40.0	-14.2
37.750	Peak	Vertical	11.1	19.1	30.2	30.2	40.0	-9.8

Note 1: The limit is specified at 300 meter measurement distance. The measurement was normalized from 3 meters to 300 meters using 40 dB/decade for comparison to the limit.

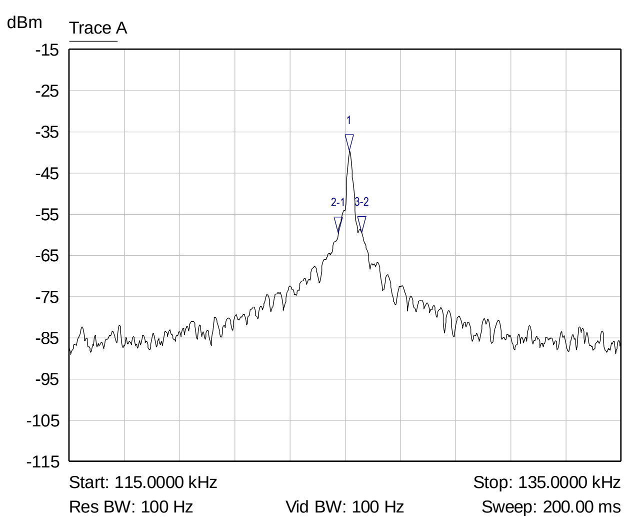
Note 2: The limit is specified at 30 meter measurement distance. The measurement was normalized from 3 meters to 300 meters using 40 dB/decade for comparison to the limit.

Result

The EUT complied with the specification.

6.2.5 Channel Bandwidth

The 20 dB bandwidth of the channel is shown in the plot below. This plot shows the fundamental emission has a 20 dB band width of 860 Hz.



Mkr	Trace	X-Axis	Value	Notes
1	Trace A	125.1600 kHz	-39.67 dBm	
2-1	Trace A	-420.0000 Hz	-19.96 dB	
3-2	Trace A	860.0000 Hz	0.06 dB	

Graph 2: Channel Bandwidth

6.3 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:

$$Receiver\ Amplitude\ Reading = Receiver\ Reading - Amplifier\ Gain$$

$$Correction\ Factor = Antenna\ Factor + Cable\ Factor$$

$$Field\ Strength = Receiver\ Amplitude\ Reading + Correction\ Factor$$

Example

Assuming a *Receiver Reading* of 42.5 dBμV is obtained from the receiver, the *Amplifier Gain* is 26.5 dB the *Antenna Factor* is 4.5 dB, and the *Cable Factor* is 4.0 dB. The *Field Strength* is calculated by subtracting the *Amplifier Gain* and adding the *Correction Factor*, giving a *Field Strength* of 24.5 dBμV/m.

$$Receiver\ Amplitude\ Reading\ =\ 42.5 - 26.5\ =\ 16.0\ \mathrm{dB\mu V/m}$$

$$Correction\ Factor\ =\ 4.5 + 4.0\ =\ 8.5\ \mathrm{dB}$$

$$Field\ Strength\ =\ 16.0 + 8.5\ =\ 24.5\ \mathrm{dB\mu V/m}$$

7 Test Procedures and Test Equipment

7.1 Conducted Emissions at Mains Ports

The conducted emissions at mains and telecommunications ports from the EUT were 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 emissions at mains ports measurements are performed in a screen room using a (50 Ω/50 μH) Line Impedance Stabilization Network (LISN).

Where mains flexible power cords are longer than 1 m, 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:

- Each power cord, which is terminated in a mains supply plug, shall be tested separately.
- Power cords, which are not specified by the manufacturer to be connected via a host unit, shall be tested separately.
- 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.
- Where a special connection is specified, the necessary hardware to effect the connection is supplied by the manufacturer for the testing purpose.
- 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 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	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer	Hewlett Packard	8566B	V048078	05/26/2019	05/26/2020
Quasi-Peak Detector	Hewlett Packard	85650A	V039474	05/02/2018	05/02/2020
LISN	Teseq	NNB 51	V045406	07/13/2018	07/13/2020
Conductance Cable Wanship Upper Site	VPI Labs	Cable J	V034832	01/08/2019	01/08/2020
Filter	VPI Labs	47038	V047038	01/03/2019	01/03/2020
Test Software (AC)	VPI Labs	Revision 01	V035674	N/A	N/A

Table 2: List of equipment used for conducted emissions testing at mains ports.

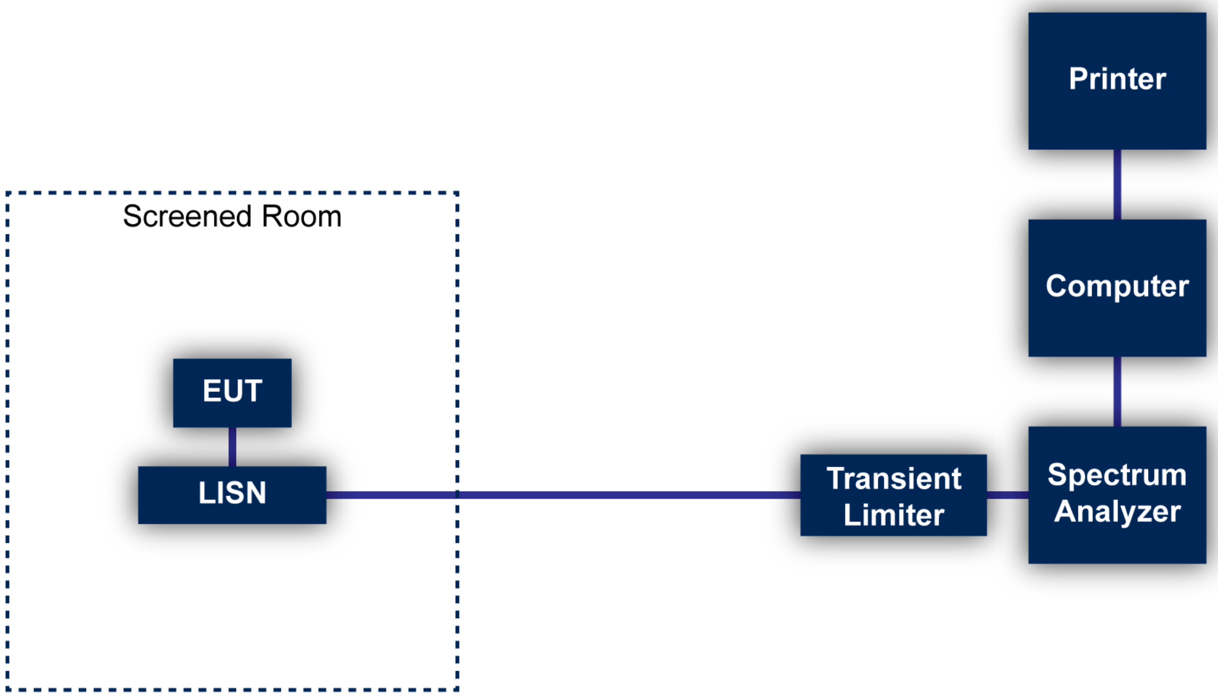


Figure 1: Conducted Emissions Test

7.2 Radiated Emissions

The radiated emissions from the EUT were measured using a spectrum analyzer with a quasi-peak adapter for peak and quasi-peak readings.

A preamplifier with a fixed gain of 51 dB was 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 frequencies below 30 MHz, a 9 kHz resolution Bandwidth was used.

A loop antenna was used to measure frequencies below 30 MHz. A biconilog antenna was used to measure the frequency range of 30 to 1000 MHz, at a distance of 3 meters from the EUT. The readings obtained by these antennas are correlated to the levels obtained with a tuned dipole antenna by adding antenna factors. A double-ridged guide antenna was used to measure the emissions at frequencies above 1000 MHz at a distance of 3 meters from the EUT.

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 emissions. 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 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. For frequencies above 1000 MHz, the EUT is placed on a table 1.5 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 emissions testing 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	Asset Number	Date of Last Calibration	Due Date of Calibration
Spectrum Analyzer/Receiver	Rohde & Schwarz	FSV40	V044352	04/01/2019	04/01/2020
Spectrum Analyzer	Hewlett Packard	8566B	V048078	05/26/2019	05/26/2020
Quasi-Peak Detector	Hewlett Packard	85650A	V039474	05/02/2018	05/02/2020
Loop Antenna	EMCO	6502	V034216	02/11/2019	02/11/2021
Biconilog Antenna	EMCO	3142E-PA	V035736	07/05/2018	07/05/2020
Double Ridged Guide Antenna	EMCO	3115	V033469	04/13/2018	04/13/2020
Standard Gain Horn	ETS-Lindgren	3160-09	V034223	ICO	ICO
High Frequency Amplifier	Miteq	AFS4-001018000-35-10P-4	V033997	01/08/2019	01/08/2020
6’ High Frequency Cable	Microcoax	UFB197C-0-0720-000000	V033638	01/08/2019	01/08/2020
20’ High Frequency Cable	Microcoax	UFB197C-1-3120-000000	V033979	01/08/2019	01/08/2020
3 Meter Radiated Emissions Cable Wanship Upper Site	Microcoax	UFB205A-0-4700-000000	V033639	01/08/2019	01/08/2020
Test Software (FCC)	VPI Labs	Revision 01	V035673	N/A	N/A

Table 3: List of equipment used for radiated emissions testing.

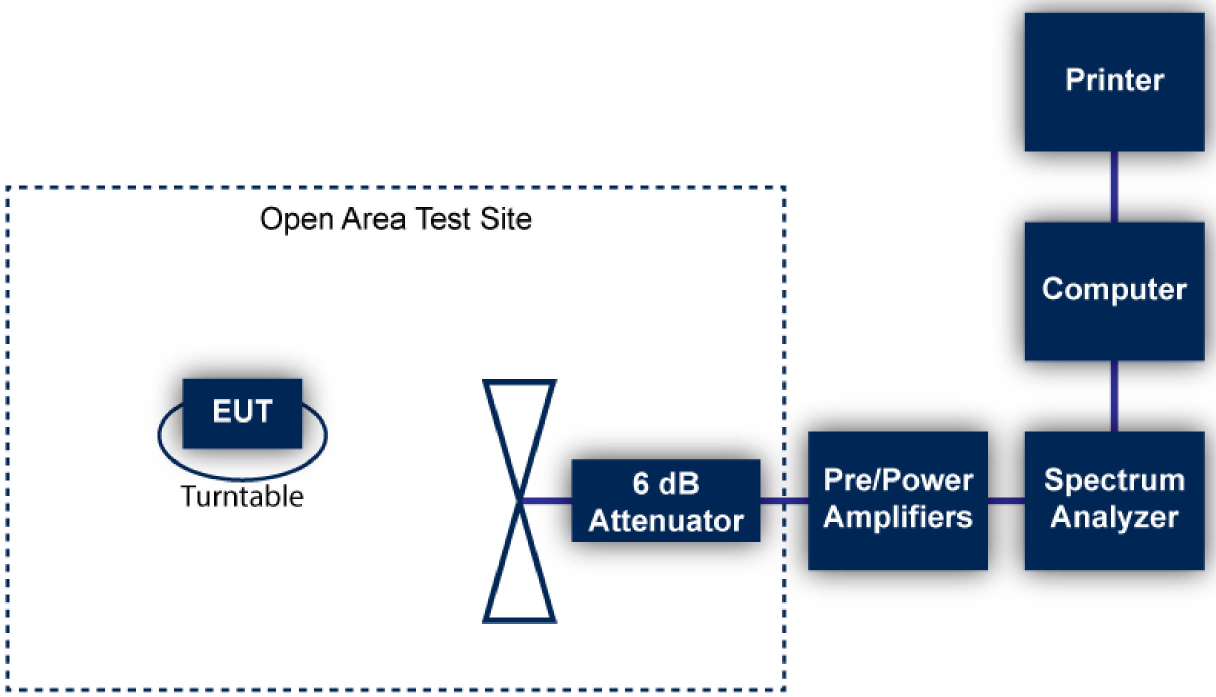


Figure 2: Radiated Emissions Test

7.3 Equipment Calibration

All applicable equipment is calibrated using either an independent calibration laboratory or VPI Laboratories, Inc. personnel at intervals defined in ANSI C63.4:2014 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.

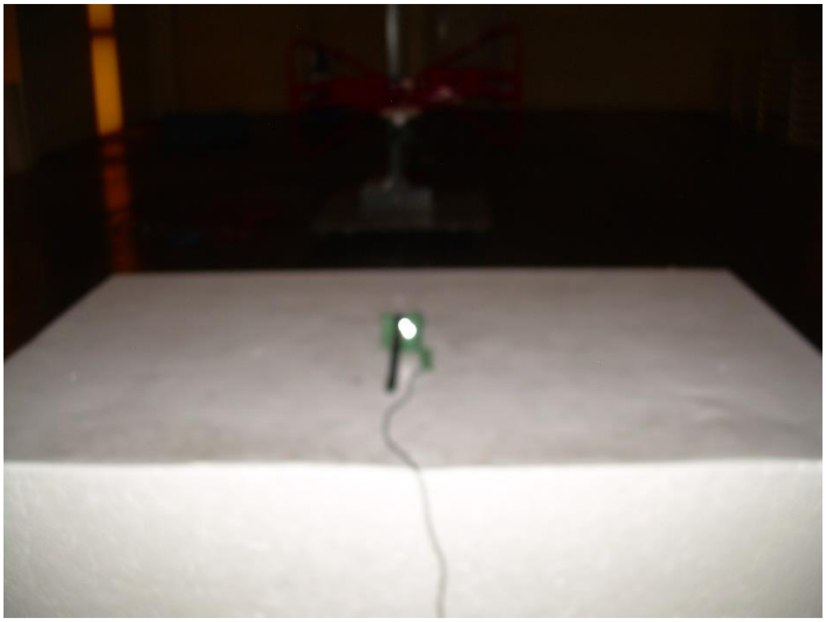
7.4 Measurement Uncertainty

Test	Uncertainty (±dB)	Confidence (%)
Conducted Emissions	2.8	95
Radiated Emission (9 kHz to 30 MHz)	3.3	95
Radiated Emissions (30 MHz to 1 GHz)	3.4	95
Radiated Emissions (1 GHz to 18 GHz)	5.0	95
Radiated Emissions (18 GHz to 40 GHz)	4.1	95

8 Photographs

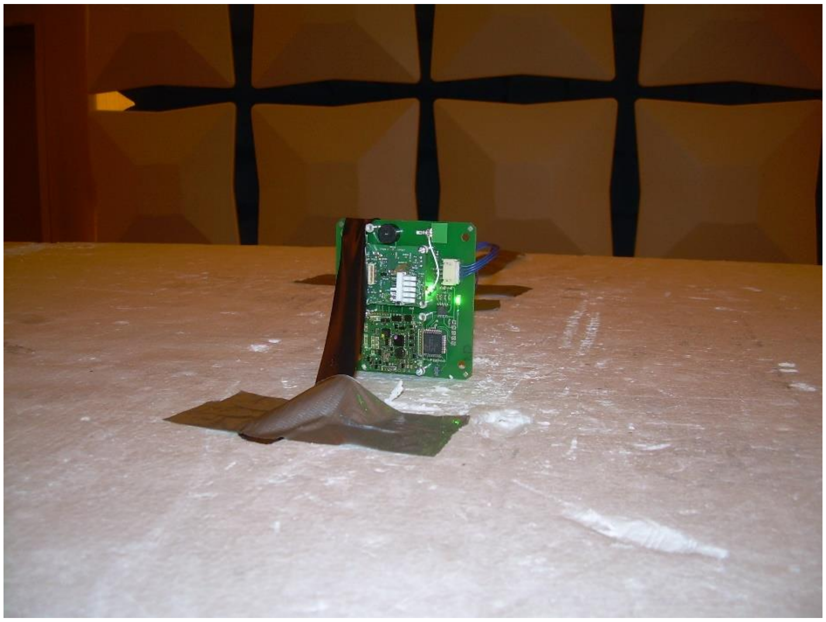
Photograph 1: Front View Radiated Emissions Configuration – Below 30 MHz

Photograph 2: Front View Radiated Emissions Configuration - 30 MHz – 1000 MHz

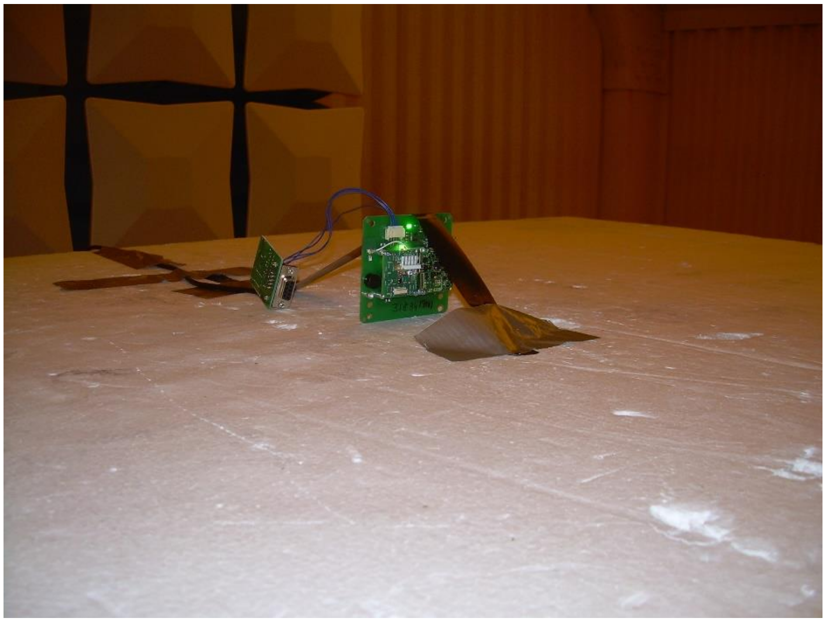


Photograph 3 – Back View Radiated Emissions Configuration - 30 MHz – 1000 MHz

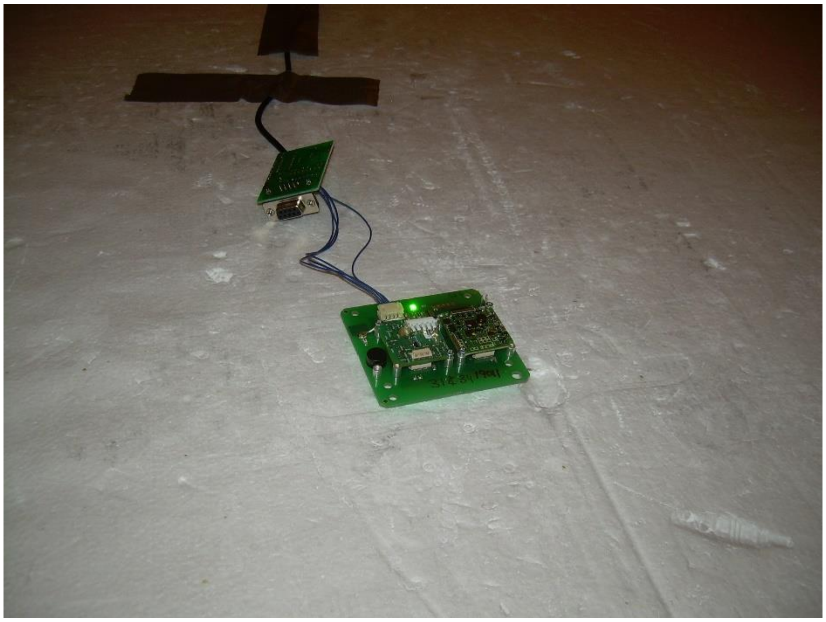
Photograph 4 – Front View Radiated Emissions Configuration – Above 1000 MHz



Photograph 5 – On Edge Configuration

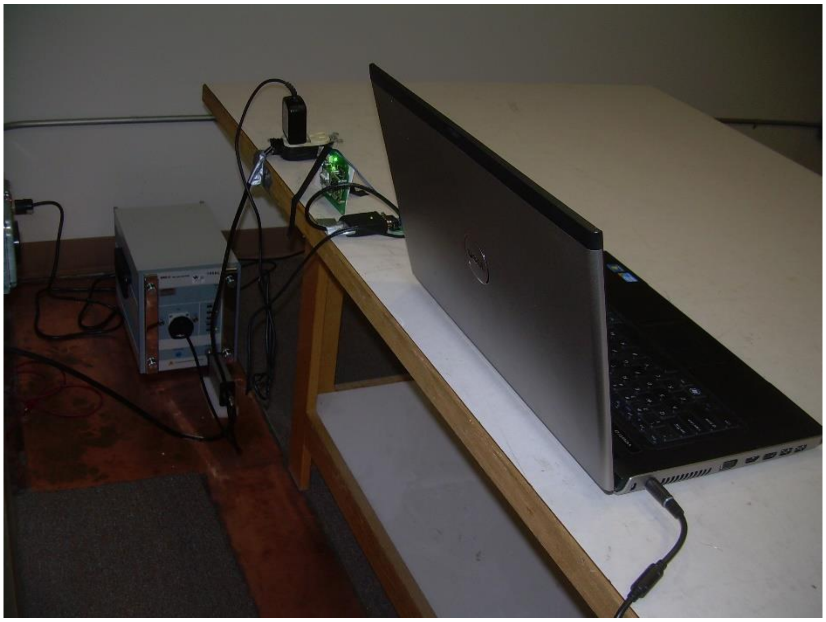


Photograph 6 – Vertical Configuration

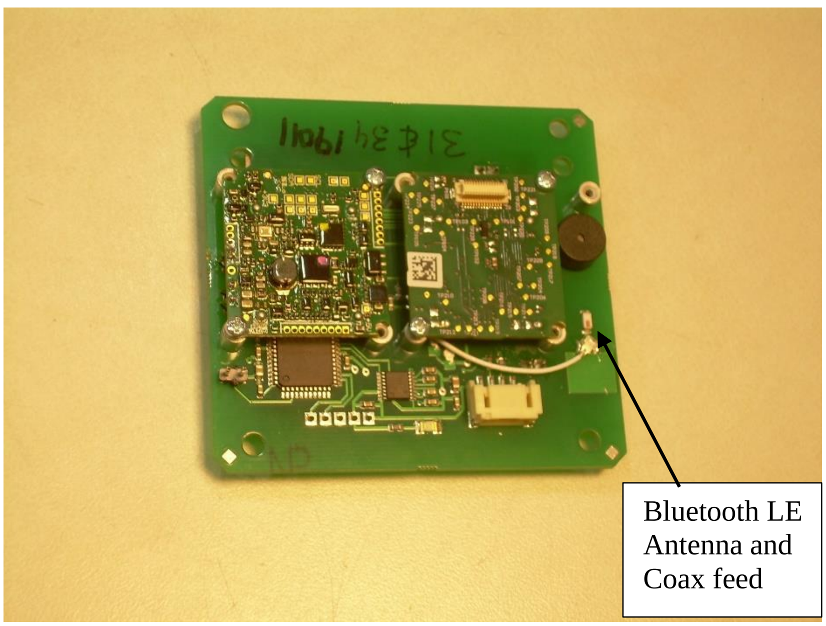


Photograph 7 – Flat Configuration

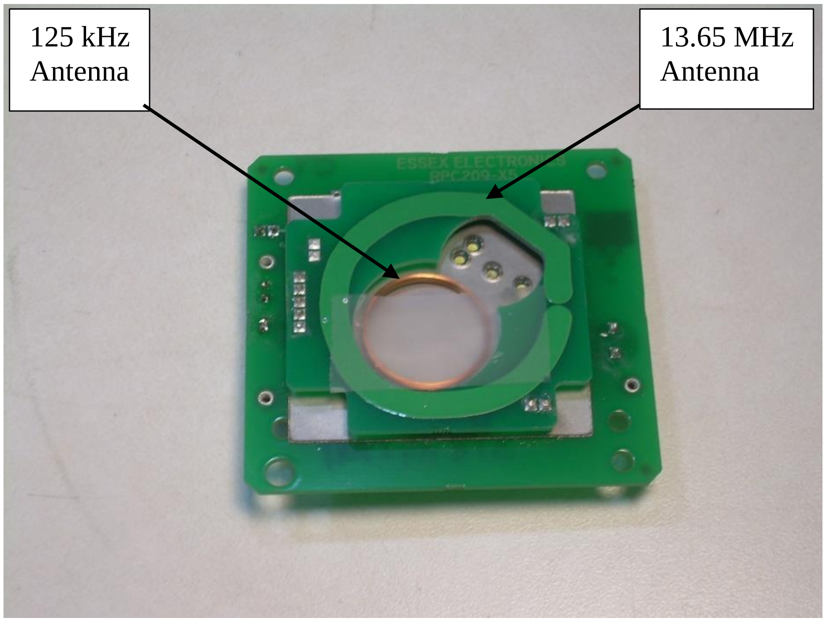
Photograph 8 – Front View Conducted Emission Configuration



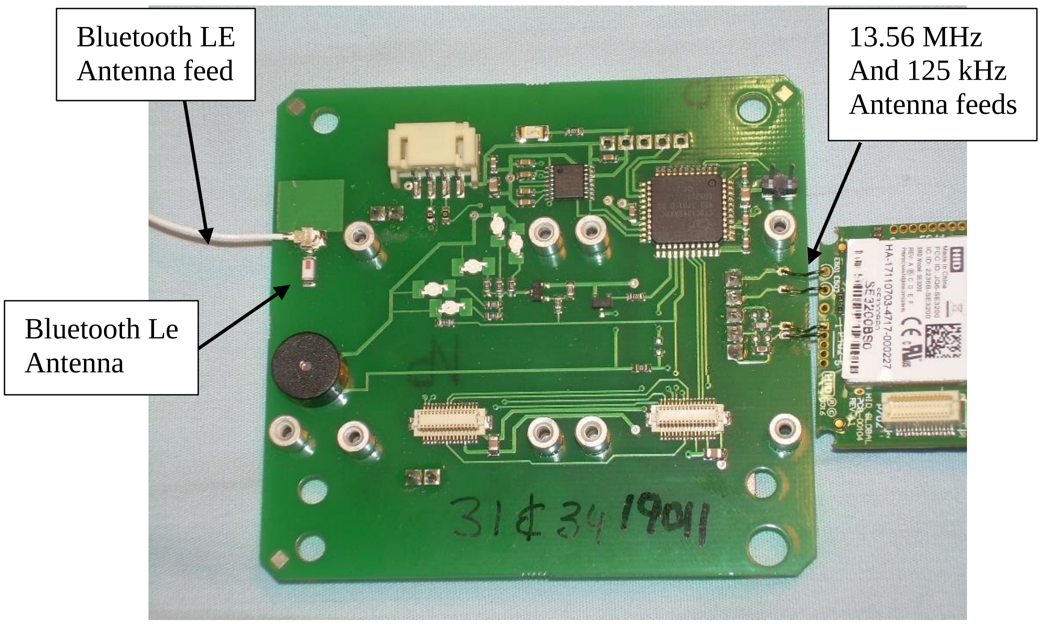
Photograph 9 – Back View Conducted Emissions Configuration



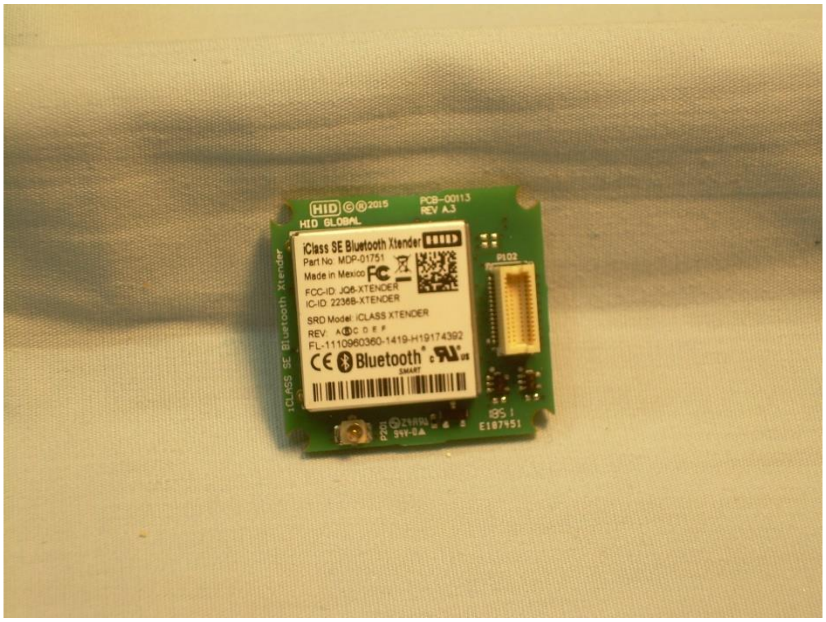
Photograph 10 – Front View of the EUT



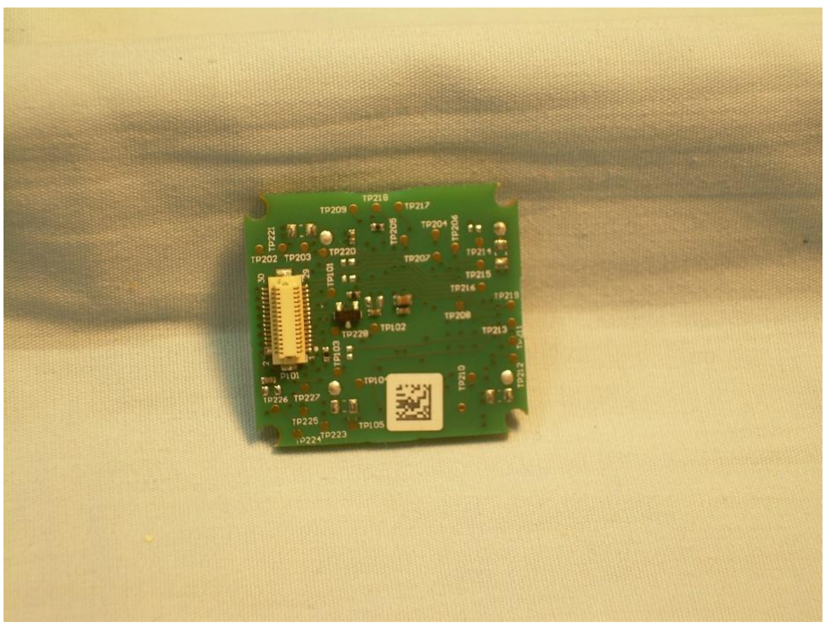
Photograph 11 – Back View of the EUT



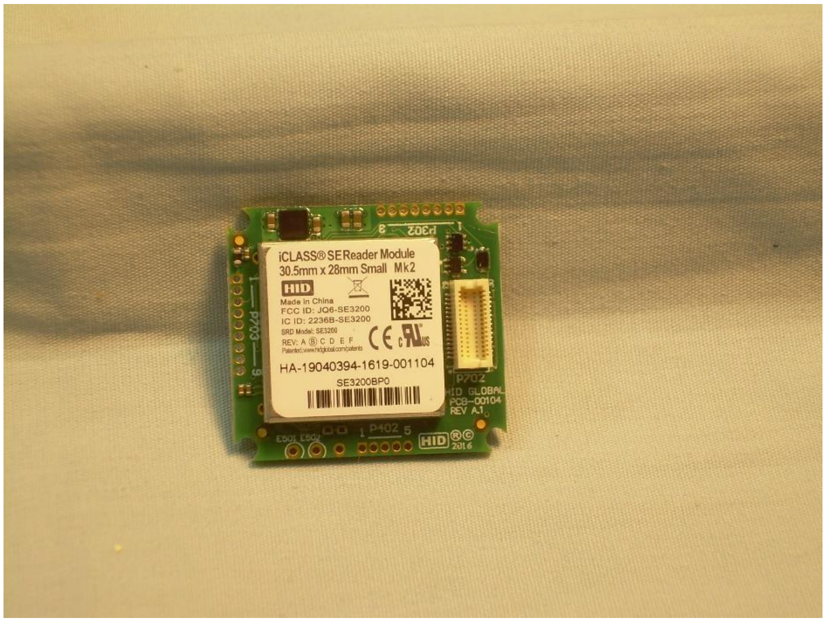
Photograph 12 – Front View of the EUT With the Bluetooth LE and RFID/NFC Modules Removed



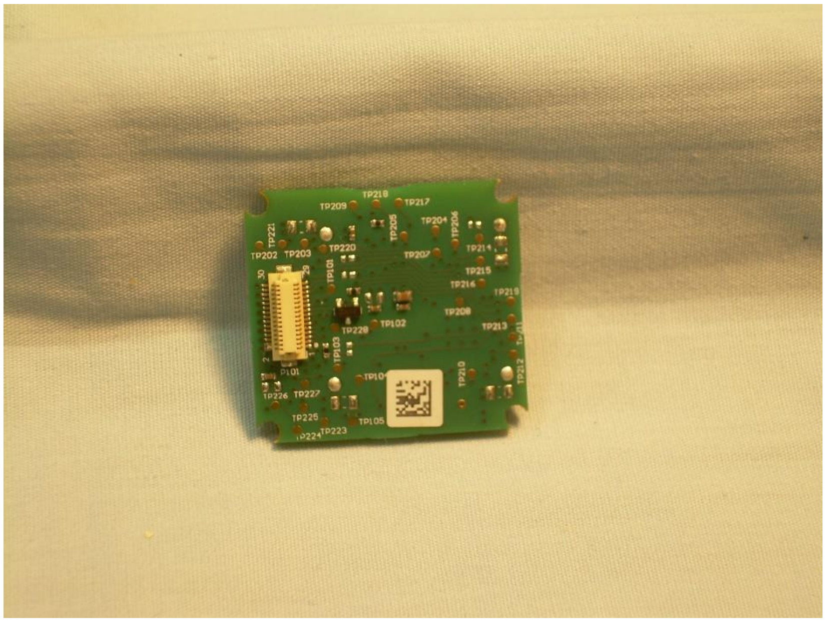
Photograph 13 – Front View of the Bluetooth LE Module



Photograph 14 – Back View of the Bluetooth LE Module



Photograph 15 – Front View of the RFID/NFC Module



Photograph 16 – Back View of the RFID/NFC Module

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