GlobaTrac LLC

CheckSmart

Main Model: CheckSmart Luggage Tracker
Serial Model: SKU601169

January 14, 2016

Report No.: 15071232-FCC-R2

(This report supersedes none)

RF Test Report

SIEMIC, INC.
Accessing global markets

Modifications made to the product : None

This Test Report is Issued Under the Authority of:		
William Long	Herve Idoko	
William Long **Compliance Engineer**	**Herve Idoko** **Technical Manager**	

Laboratory Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.

In addition to testing and certification, SIEMIC provides initial design reviews and compliance management through out a project. Our extensive experience with China, Asia Pacific, North America, European, and international compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC , RF/Wireless , Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless , Telecom
Taiwan	BSMI , NCC , NIST	EMC, RF, Telecom , Safety
Hong Kong	OFTA , NIST	RF/Wireless ,Telecom
Australia	NATA, NIST	EMC, RF, Telecom , Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF , Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC , RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom , Safety

Accreditations for Product Certifications

Country/Region	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC , RF , Telecom
Canada	IC FCB , NIST	EMC , RF , Telecom
Singapore	iDA, NIST	EMC , RF , Telecom
EU	NB	EMC & R&TTE Directive
Japan	MIC, (RCB 208)	RF , Telecom
Hong Kong	OFTA (US002)	RF , Telecom

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CONTENTS

1 EXECUTIVE SUMMARY & EUT INFORMATION

The purpose of this test programme was to demonstrate compliance of the GlobaTrac LLC, CheckSmart and model: CheckSmart Luggage Tracker against the current Stipulated Standards. The CheckSmart has demonstrated compliance with the FCC Part 15.247: 2014, ANSI C63.10: 2013.

1.1 EUT Information

EUT Description	:	**CheckSmart**
Main Model	:	**CheckSmart Luggage Tracker**
Serial Model	:	**SKU601169**
Antenna Gain	:	**GPRS850: 2.0 dBi GPRS1900: 2.0 dBi BLE: 3.0 dBi**
Input Power	:	**3V DC**
Classification Per Stipulated Test Standard	:	**FCC Part 15.247: 2014, ANSI C63.10: 2013**

2 REPORT REVISION HISOTROY

Report No.	Report Version	Description	Issue Date
15071232-FCC-R2	V1	Original	December 24,2015
15071232-FCC-R2	V2	Change Testing Data and Setup Photos	January 14, 2016

3 TECHNICAL DETAILS

Purpose	**Compliance testing of CheckSmart with stipulated standard**
Applicant / Client	**GlobaTrac LLC** **2930 Westwood Blvd., Suite 250, Los Angeles, CA. 90064 USA**
Manufacturer	**Anpinda Precision Industry (Huizhou)Co.Ltd** **Jizhun(Foxconn) Huizhou Technology Park,12 Gou Di Duan, Damen Group, Xialiao Village Committee, Longxi Town, Boluo County, Huizhou City, Guangdong Province, China**
Laboratory performing the tests	**SIEMIC Nanjing (China) Laboratories** **NO.2-1,Longcang Dadao, Yuhua Economic Development Zone,** **Nanjing, China** **Tel:+86(25)86730128/86730129** **Fax:+86(25)86730127** **Email:info@siemic.com**
Test report reference number	**15071232-FCC-R2**
Date EUT received	**11st December, 2015**
Standard applied	**FCC Part 15.247: 2014, ANSI C63.10: 2013**
Dates of test (from – to)	**14th December, 2015 to 14th January, 2016**
No of Units :	**#1**
Equipment Category :	**Digital Transmission System**
Trade Name :	**N/A**
RF Operating Frequency (ies)	**GPRS850 TX : 824.2 ~ 848.8 MHz; RX : 869.2 ~ 893.8 MHz** **GPRS1900 TX : 1850.2 ~ 1909.8 MHz; RX : 1930.2 ~ 1989.8 MHz** **BLE: 2402-2480MHz**
Number of Channels	**299CH (GPRS1900) and 124CH (GPRS850)** **BLE: 40 CH**
Modulation	**GSM: GMSK** **Bluetooth: GFSK**
GPRS Multi-slot class	**8/10**

FCC ID	**2AADDVIC**

4 MODIFICATION

NONE

5 TEST SUMMARY

The product was tested in accordance with the following specifications.
All testing has been performed according to below product classification:

5.1.1.1

5.1.1.2 Test Results Summary

FCC Rules	Description of Test	Result
§15.247 (i), §2.1091	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.247 (a)(2)	DTS (6 dB) CHANNEL BANDWIDTH	Compliance
§15.247(b)(3)	Conducted Maximum Output Power	Compliance
§15.247(e)	Power Spectral Density	Compliance
§15.247(d)	Band-Edge	Compliance
§15.207 (a),	AC Power Line Conducted Emissions	*N/A
§15.205, §15.209, §15.247(d)	Radiated Spurious Emissions & Unwanted Emissions into Restricted Frequency Bands	Compliance

Note:"*N/A" means that the EUT can only use the battery power supply.

6 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

5.1 Antenna Requirement

Applicable Standard

According to § 15.203, 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 user of a standard antenna jack or electrical connector is prohibited.
The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.

b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.
And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

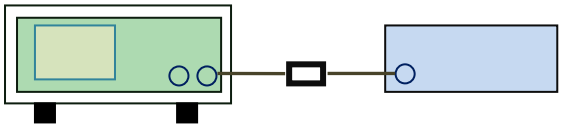
Antenna Connector Construction

The EUT has 2 antennas, one is a PIFA antenna for GPRS, the gain are both 2.0 dBi for GPRS850 and GPRS1900, the other one is a patch antenna for BLE, the gain is 3.0 dBi, which in accordance to section 15.203, please refer to the internal photos.

Result: Complianance.

5.2 DTS (6 dB) Channel Bandwidth

Temperature	25℃
Relative Humidity	57%
Atmospheric Pressure	1024mbar
Test date :	January 14, 2016
Tested By :	William Long

Spec	Item	Requirement	Applicable
§ 15.247(a)(2)	a)	6dB BW≥ 500kHz;	☑
RSS Gen(4.6.1)	b)	99% BW: For FCC reference only; required by IC.	☑
Test Setup	 Spectrum Analyzer EUT		
Test Procedure	558074 D01 DTS MEAS Guidance v03r03, 8.1 DTS bandwidth 6dB Emission bandwidth measurement procedure - Set RBW = 100 kHz. - Set the video bandwidth (VBW) ≥ 3 ´ RBW. - Detector = Peak. - Trace mode = max hold. - Sweep = auto couple. - Allow the trace to stabilize. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.		
Remark			
Result	☑ Pass ☐ Fail		

Test Data ☑ Yes ☐ N/A

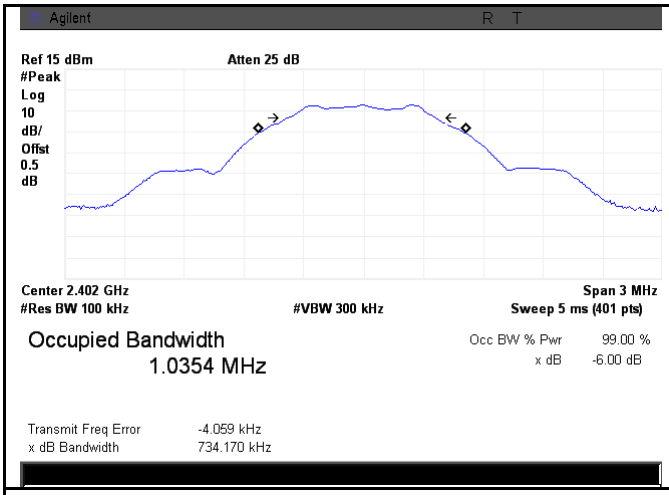
Test Plot ☑ Yes (See below) ☐ N/A

6dB Bandwidth measurement result

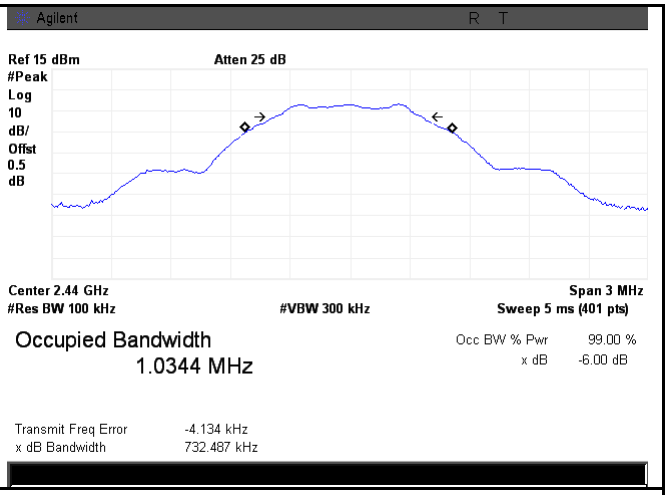
Test Data

CH	Freq (MHz)	6dB Bandwidth (kHz)	99% Occupied Bandwidth (MHz)
Low	2402	734.170	1.0354
Mid	2440	732.487	1.0344
High	2480	731.079	1.0387

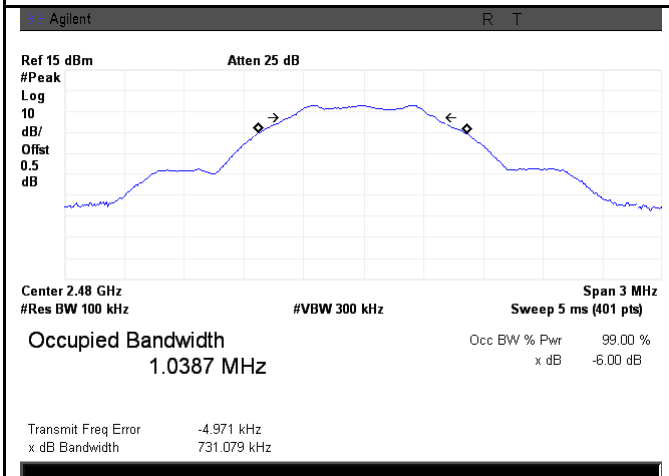
Test Plots



6dB Bandwidth - Low CH 2402



6dB Bandwidth - Mid CH 2440

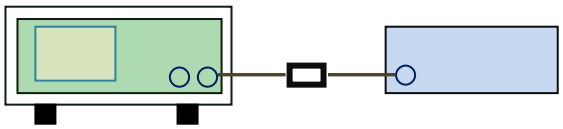


6dB Bandwidth - High CH 2480

5.3 Maximum Output Power

Temperature	25℃
Relative Humidity	57%
Atmospheric Pressure	1024mbar
Test date :	January 14, 2016
Tested By :	William Long

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(b)(2),RSS210(A8.4)	a)	FHSS in 2400-2483.5MHz with ≥ 75 channels: ≤ 1 Watt	☐
	b)	FHSS in 5725-5850MHz: ≤ 1 Watt	☐
	c)	For all other FHSS in the 2400-2483.5MHz band: ≤ 0.125 Watt.	☐
	d)	FHSS in 902-928MHz with ≥ 50 channels: ≤ 1 Watt	☐
	e)	FHSS in 902-928MHz with ≥ 25 & <50 channels: ≤ 0.25 Watt	☐
	f)	DTS in 902-928MHz, 2400-2483.5MHz ≤ 1 Watt	☑
Test Setup	 Spectrum Analyzer EUT		
Test Procedure	558074 D01 DTS MEAS Guidance v03r03, 9.1.2 Integrated band power method Maximum output power measurement procedure a) Set the RBW ≥ DTS bandwidth. b) Set VBW ≥ 3 × RBW. c) Set span ≥ 3 x RBW d) Sweep time = auto couple. e) Detector = peak. f) Trace mode = max hold. g) Allow trace to fully stabilize. h) Use peak marker function to determine the peak amplitude level.		
Remark			
Result	☑ Pass ☐ Fail		

Test Data ☑ Yes ☐ N/A

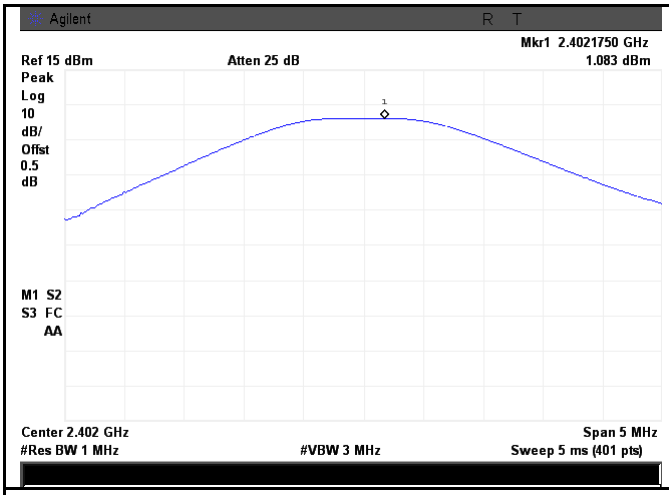
Test Plot ☑ Yes (See below) ☐ N/A

Output Power measurement result

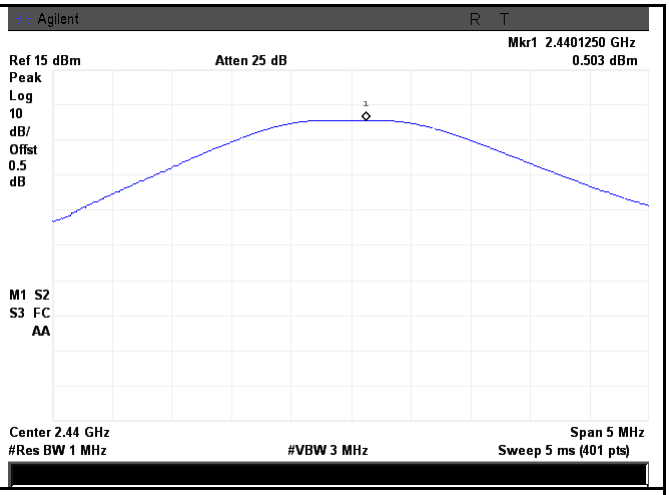
Test Data

Type	CH	Freq (MHz)	Conducted Power (dBm)	Limit (dBm)	Result
Output power	Low	2402	1.083	30	Pass
	Mid	2440	0.503	30	Pass
	High	2480	-0.242	30	Pass

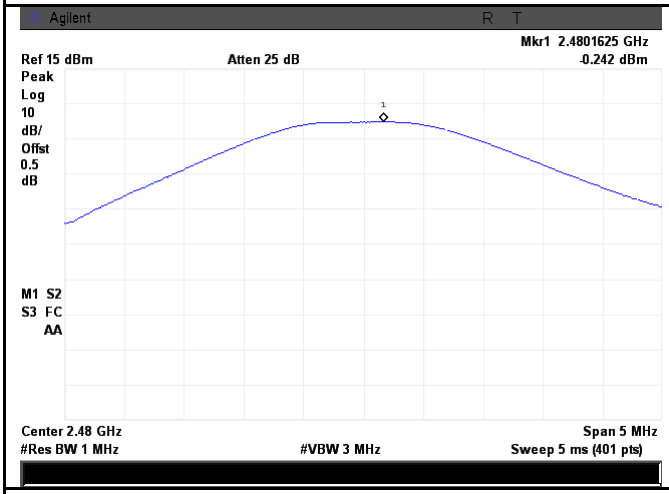
Test Plots



AV Output power - Low CH 2402



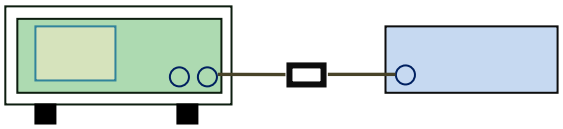
AV Output power - Mid CH 2440



AV Output power - High CH 2480

5.4 Power Spectral Density

Temperature	25℃
Relative Humidity	57%
Atmospheric Pressure	1024mbar
Test date :	January 14, 2016
Tested By :	William Long

Spec	Item	Requirement	Applicable
§15.247(e)	a)	The power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.	☑
Test Setup			
Test Procedure	558074 D01 DTS MEAS Guidance v03r03, 10.2 power spectral density method power spectral density measurement procedure - a) Set analyzer center frequency to DTS channel center frequency. - b) Set the span to 1.5 times the DTS bandwidth. - c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz. - d) Set the VBW ≥ 3 × RBW. - e) Detector = peak. - f) Sweep time = auto couple. - g) Trace mode = max hold. - h) Allow trace to fully stabilize. - i) Use the peak marker function to determine the maximum amplitude level within the RBW. - j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.		
Remark			
Result	☑ Pass ☐ Fail		

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

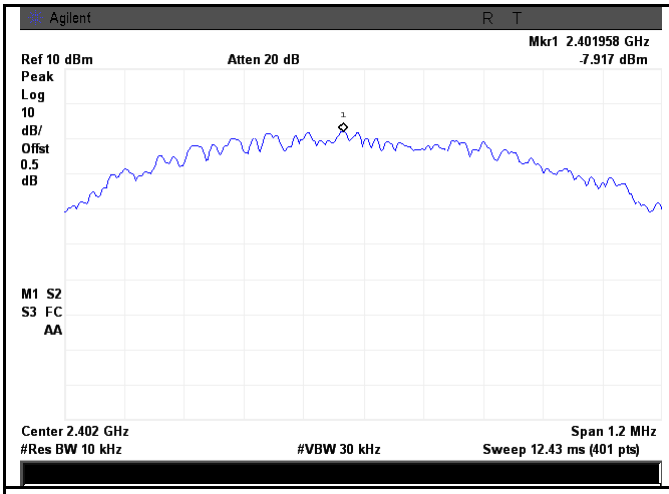
Power Spectral Density measurement result

Test Data

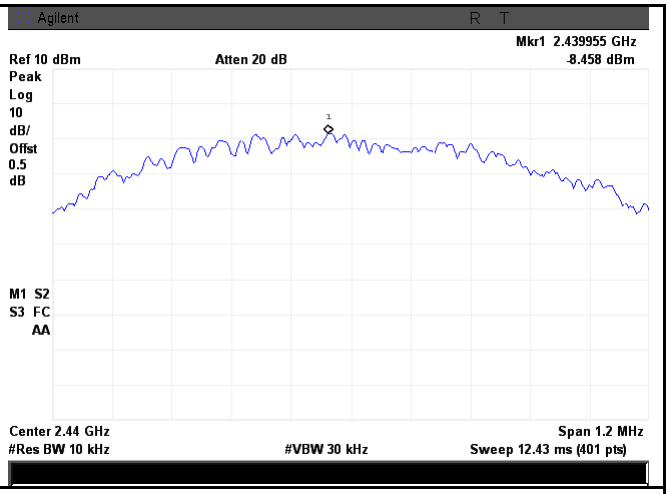
Type	CH	Freq (MHz)	PSD (dBm)	Factor (dB)	Result (dBm)	Limit (dBm)	Result
PSD	Low	2402	-7.917	-5.2	-13.117	8	Pass
	Mid	2440	-8.458	-5.2	-13.658	8	Pass
	High	2480	-9.239	-5.2	-14.439	8	Pass

Note: Factor= 10log(3/10)dB= -5.2 dB (b, g, n20 mode);

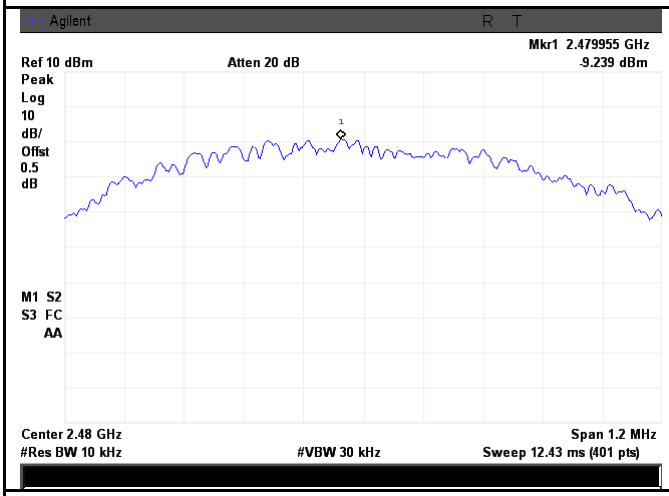
Test Plots



PSD - Low CH 2402



PSD - Mid CH 2440

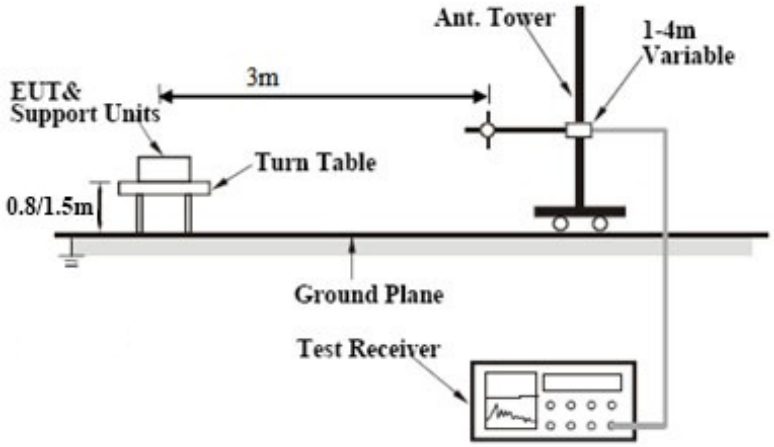


PSD - High CH 2480

5.5 Band-Edge & Unwanted Emissions into Non-Restricted Frequency Bands

Temperature	23℃
Relative Humidity	59%
Atmospheric Pressure	1026mbar
Test date :	January 14, 2016
Tested By :	William Long

Requirement(s):

Spec	Item	Requirement	Applicable
§15.247(d)	a)	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.	☑
Test Setup			
Test Procedure	Radiated Method Only - 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator. - 2. Position the EUT without connection to measurement instrument. Put it on the Rotated table and turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range. - 3. First, set both RBW and VBW of spectrum analyzer to 100 kHz with a		

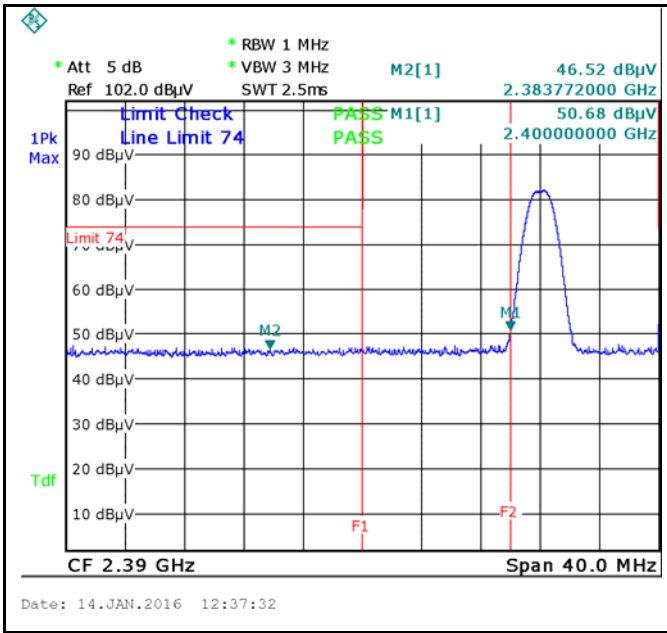
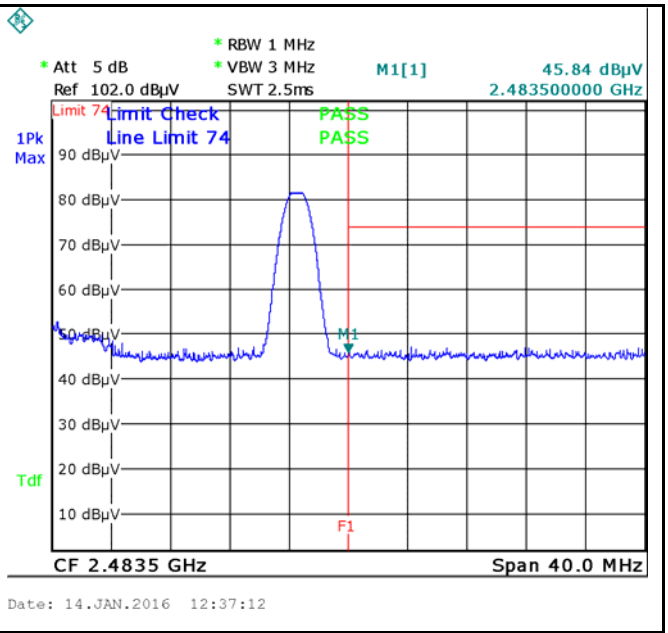
	convenient frequency span including 100kHz bandwidth from band edge, check the emission of EUT, if pass then set Spectrum Analyzer as below: a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. b. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz. - 4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency. - 5. Repeat above procedures until all measured frequencies were complete.
Remark	
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Plots

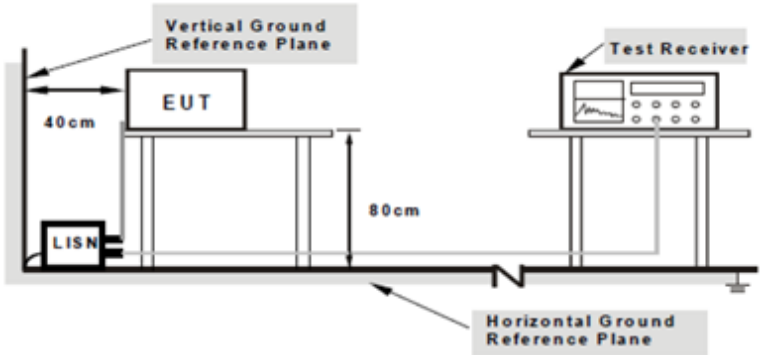
Band Edge measurement result

	
Band Edge, Left Side (Peak) **Note: F1 is frequency 2390MHz; F2 is frequency 2400MHz**	Band Edge, Right Side (Peak) **Note: F1 is frequency 2483.5MHz**
Note: (no need if PK value less than the AV limit)	Note: (no need if PK value less than the AV limit)
Band Edge, Left Side-AV	Band Edge, Right Side-AV

5.6 AC Power Line Conducted Emissions

Temperature	25℃
Relative Humidity	57%
Atmospheric Pressure	1024mbar
Test date :	----------
Tested By :	William Long

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td>47CFR§15.207, RSS210 (A8.1)</td><td>a)</td><td>For Low-power radio-frequency devices 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). The lower limit applies at the boundary between the frequencies ranges.
<table>
<tr><th rowspan="2">Frequency ranges (MHz)</th><th colspan="2">Limit (dBμV)</th></tr>
<tr><th>QP</th><th>Average</th></tr>
<tr><td>0.15 ~ 0.5</td><td>66 – 56</td><td>56 – 46</td></tr>
<tr><td>0.5 ~ 5</td><td>56</td><td>46</td></tr>
<tr><td>5 ~ 30</td><td>60</td><td>50</td></tr>
</table></td><td>☑</td></tr>
<tr><td>Test Setup</td><td colspan="3"> 

Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.</td></tr>
<tr><td>Procedure</td><td colspan="3">1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table.
2. The power supply for the EUT was fed through a 50W/50mH EUT LISN, connected to filtered mains.
3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss</td></tr>
</table>

	coaxial cable. 4. All other supporting equipment were powered separately from another main supply. 5. The EUT was switched on and allowed to warm up to its normal operating condition. 6. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver. 7. High peaks, relative to the limit line, The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 kHz. 8. Step 7 was then repeated for the LIVE line (for AC mains) or DC line (for DC power).
Remark	
Result	☐ Pass ☐ Fail ☑ N/A

Test Data ☐ Yes ☑ N/A

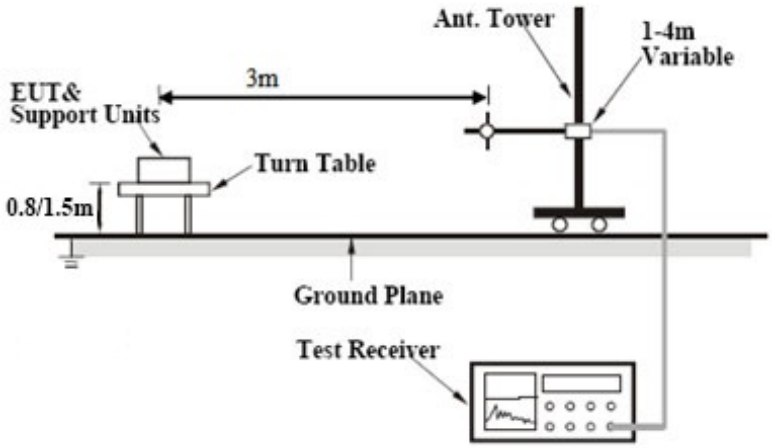
Test Plot ☐ Yes (See below) ☑ N/A

5.7 Radiated Emissions

Temperature	22℃
Relative Humidity	58%
Atmospheric Pressure	1025mbar
Test date :	24th December, 2015& January 14, 2016
Tested By :	William Long

Requirement(s):

<table>
<tr><th>Spec</th><th>Item</th><th>Requirement</th><th>Applicable</th></tr>
<tr><td rowspan="3">47CFR§15.247(d), RSS210 (A8.5)</td><td>a)</td><td>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges
<table>
<tr><th>Frequency range (MHz)</th><th>Field Strength (μV/m)</th></tr>
<tr><td>30 – 88</td><td>100</td></tr>
<tr><td>88 – 216</td><td>150</td></tr>
<tr><td>216 960</td><td>200</td></tr>
<tr><td>Above 960</td><td>500</td></tr>
</table></td><td>☑</td></tr>
<tr><td>b)</td><td>For non-restricted band, In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB or 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, determined by the measurement method on output power to be used. Attenuation below the general limits specified in § 15.209(a) is not required
☒ 20 dB down ☐ 30 dB down</td><td>☑</td></tr>
<tr><td>c)</td><td>or restricted band, emission must also comply with the radiated emission limits specified in 15.209</td><td>☑</td></tr>
</table>

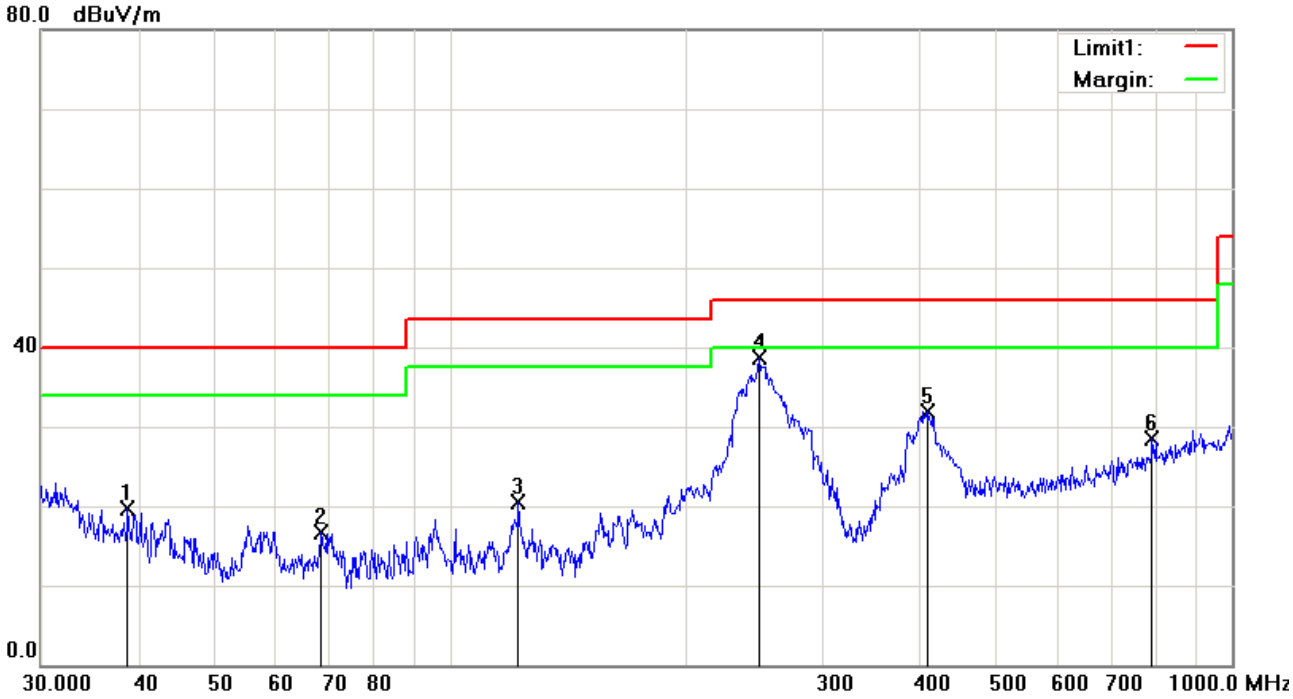
Test Setup	
Procedure	1. The EUT was switched on and allowed to warm up to its normal operating condition. 2. The test was carried out at the selected frequency points obtained from the EUT characterization. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: a. Vertical or horizontal polarization (whichever gave the higher emission level over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasiy Peak detection at frequency below 1GHz. 4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz with Peak detection for Peak measurement at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz with Peak detection for Average Measurement as below at frequency above 1GHz. 5. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	Different RF configuration has been evaluated but not much difference was found. The data presented here is the worst case data with EUT under 802.11n – HT20-2437MHz mode.
Result	☑ Pass ☐ Fail

Test Data ☑ Yes ☐ N/A

Test Plot ☑ Yes (See below) ☐ N/A

Test Mode:	Transmitting Mode

Below 1GHz

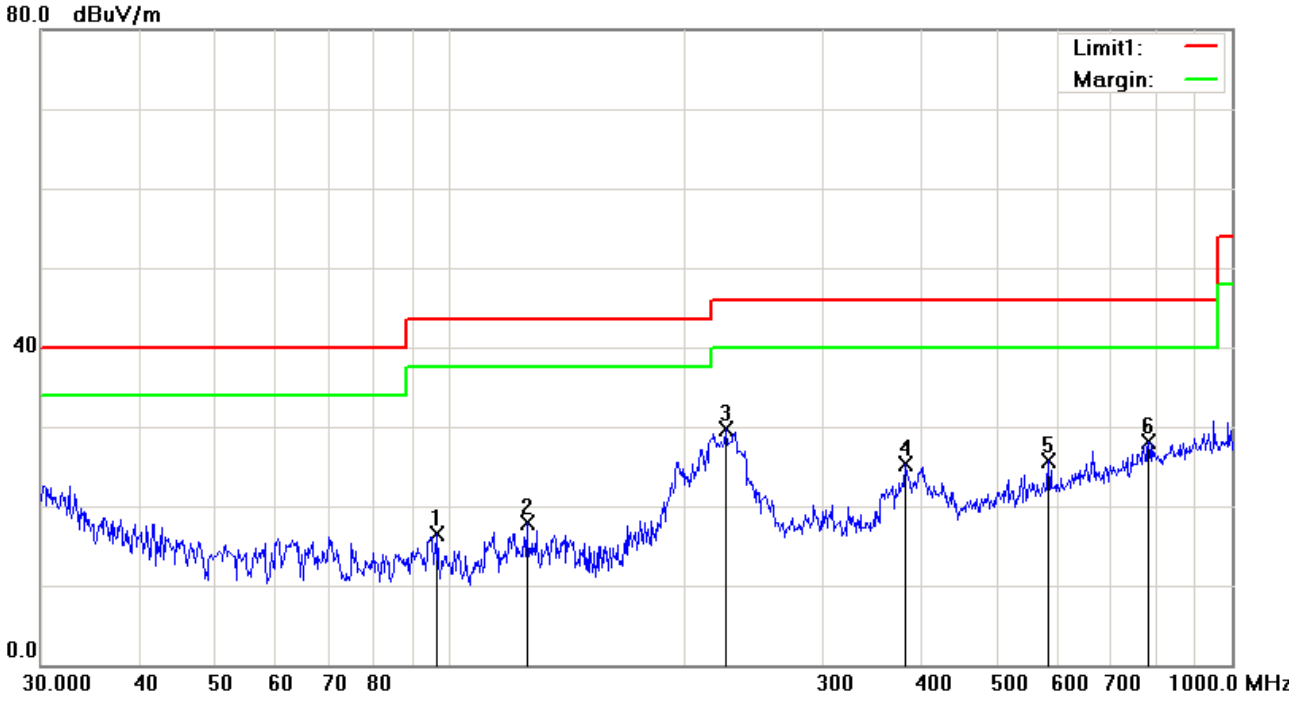


Test Data

Vertical Polarity Plot @3m

No	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Height (cm)	Degree (°)
1	V	38.7518	26.39	peak	-6.68	19.71	40.00	-20.29	100	359
2	V	68.3908	30.43	peak	-13.71	16.72	40.00	-23.28	100	359
3	V	122.4040	27.90	peak	-7.46	20.44	43.50	-23.06	100	359
4	V	248.5519	47.96	peak	-9.17	38.79	46.00	-7.21	100	359
5	V	408.9460	36.06	peak	-4.08	31.98	46.00	-14.02	100	359
6	V	790.6188	25.44	peak	3.06	28.50	46.00	-17.50	100	359

Below 1GHz



Test Data

Horizontal Polarity Plot @3m

No	P/L	Frequency (MHz)	Reading (dBμV)	Detector	Corrected (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Height (cm)	Degree (°)
1	H	96.4362	28.27	peak	-11.75	16.52	43.50	-26.98	100	359
2	H	125.4457	25.53	peak	-7.64	17.89	43.50	-25.61	100	359
3	H	225.3080	38.57	peak	-8.96	29.61	46.00	-16.39	100	359
4	H	382.5879	30.05	peak	-4.71	25.34	46.00	-20.66	100	359
5	H	582.7425	25.96	peak	-0.27	25.69	46.00	-20.31	100	359
6	H	782.3453	25.26	peak	2.93	28.19	46.00	-17.81	100	359

Above 1GHz

Test Mode:	Transmitting Mode

Low Channel (2402 MHz)

Frequency (MHz)	Substituted level (dBμV/m)	Detector (PK/AV)	Direction (degree)	Height (m)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4804	35.11	AV	268	1.5	V	33.83	3.3	24	48.24	54	-5.76
4804	35.45	AV	74	1.6	H	33.83	3.3	24	48.58	54	-5.42
4804	43.22	PK	268	1.5	V	33.83	3.3	24	56.35	74	-17.65
4804	46.88	PK	74	1.6	H	33.83	3.3	24	60.01	74	-13.99
5581.2	33.15	AV	221	1.4	V	34.29	3.8	24	47.24	54	-6.76
5581.2	34.66	AV	178	1.5	H	34.29	3.8	24	48.75	54	-5.25
5581.2	43.29	PK	221	1.4	V	34.29	3.8	24	57.38	74	-16.62
5581.2	43.88	PK	178	1.5	H	34.29	3.8	24	57.97	74	-16.03

Middle Channel (2440 MHz)

Frequency (MHz)	Substituted level (dBμV/m)	Detector (PK/AV)	Direction (degree)	Height (m)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4880	33.28	AV	281	1.5	V	33.86	3.3	24	46.44	54	-7.56
4880	35.18	AV	82	1.4	H	33.86	3.3	24	48.34	54	-5.66
4880	42.66	PK	281	1.5	V	33.86	3.3	24	55.82	74	-18.18
4880	45.88	PK	82	1.4	H	33.86	3.3	24	59.04	74	-14.96
5646.8	33.89	AV	215	1.5	V	34.32	3.8	24	48.01	54	-5.99
5646.8	34.17	AV	302	1.6	H	34.32	3.8	24	48.29	54	-5.71
5646.8	43.66	PK	215	1.5	V	34.32	3.8	24	57.78	74	-16.22
5646.8	43.28	PK	302	1.6	H	34.32	3.8	24	57.4	74	-16.6

High Channel (2480 MHz)

Frequency (MHz)	Substituted level (dBμV/m)	Detector (PK/AV)	Direction (degree)	Height (m)	Polarity (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)
4960	33.23	AV	288	1.6	V	33.9	3.3	24	46.43	54	-7.57
4960	35.78	AV	85	1.6	H	33.9	3.3	24	48.98	54	-5.02
4960	42.99	PK	288	1.6	V	33.9	3.3	24	56.19	74	-17.81
4960	45.88	PK	82	1.6	H	33.9	3.3	24	59.08	74	-14.92
5587.3	33.89	AV	221	1.5	V	34.35	3.8	24	48.04	54	-5.96
5587.3	34.89	AV	308	1.6	H	34.35	3.8	24	49.04	54	-4.96
5587.3	43.89	PK	221	1.5	V	34.35	3.8	24	58.04	74	-15.96
5587.3	43.66	PK	308	1.6	H	34.35	3.8	24	57.81	74	-16.19

Note:

*1, The testing has been conformed to 10*2480MHz=24,800MHz*
2, All other emissions more than 30 dB below the limit

7 Annex A. TEST INSTRUMENT & METHOD

7.1 Annex A.i. TEST INSTRUMENTATION & GENERAL PROCEDURES

Instrument	Model	Serial #	Calibration Date	Calibration Due Date
Radiated Emissions				
EMI test receiver	ESL6	100262	11/15/2015	11/14/2016
Positioning Controller	UC3000	MF780208282	11/14/2015	11/13/2016
OPT 010 AMPLIFIER(0.1-1300MHz)	8447E	2727A02430	11/14/2015	11/13/2016
Microwave Preamplifier(0.5～18GHz)	PAM-118	443008	11/03/2015	11/02/2016
Bilog Antenna (30MHz~6GHz)	JB6	A110712	1/15/2015	1/14/2016
Bilog Antenna (30MHz~2GHz)	JB1	A112107	2/5/2015	2/4/2016
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	071259	11/12/2015	11/11/2016
Double Ridge Horn Antenna (1 ~18GHz)	AH-118	071283	11/12/2015	11/11/2016
SYNTHESIZED SIGNAL GENERATOR	8665B	3744A01293	04/10/2015	04/09/2016
Tunable Notch Filter	3NF-800/1000-S	AA4	12/05/2015	12/04/2016
Tunable Notch Filter	3NF-1000/2000-S	AM 4	2/27/2015	2/26/2016
Universal Radio Communication Tester	CMU200	121393	02/15/2015	02/14/2016
RF CONDUCTED TEST				
R&S EMI RECEIVER	ESPI3	101216	11/04/2015	11/03/2016
POWER SPLITTER	1#	1#	02/02/2015	02/01/2016
HP SPECTRUM ANALYZER	8563E	3821A09023	10/09/2015	10/08/2016
TEMPERATURE/HUMIDITY CHAMBER	1007H	N/A	01/07/2015	01/06/2016

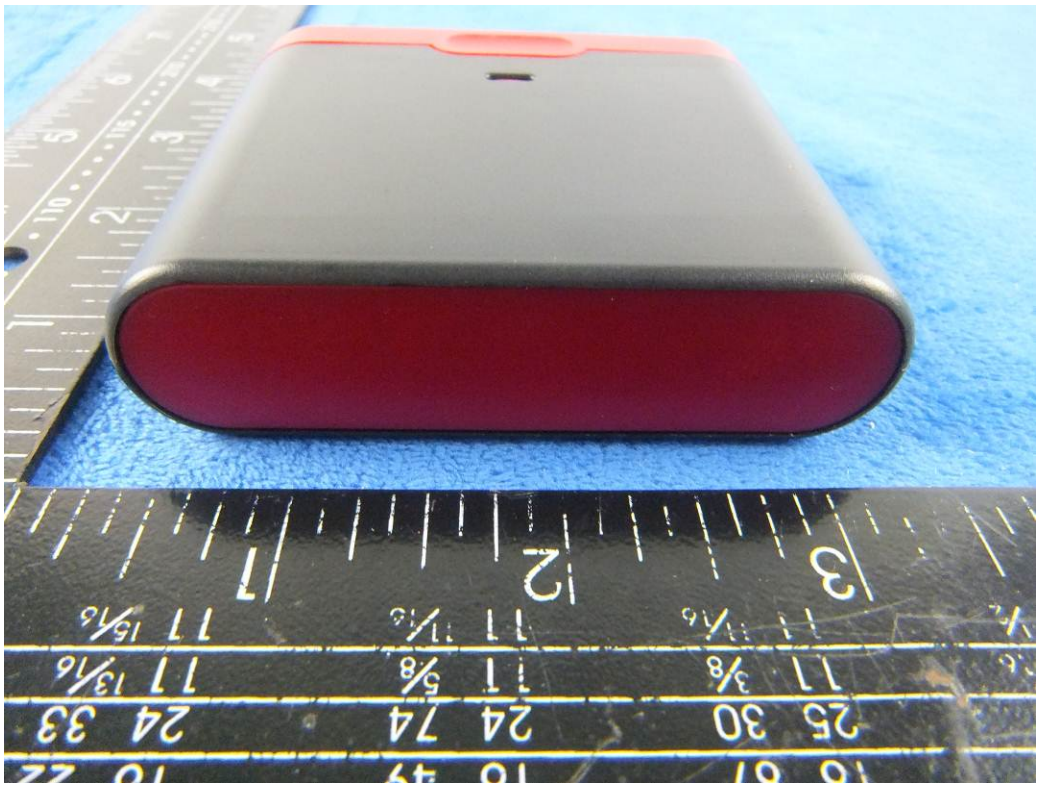
8 Annex B. EUT AND TEST SETUP PHOTOGRAPHS

8.1 Annex B.i. Photograph 1: EUT External Photo

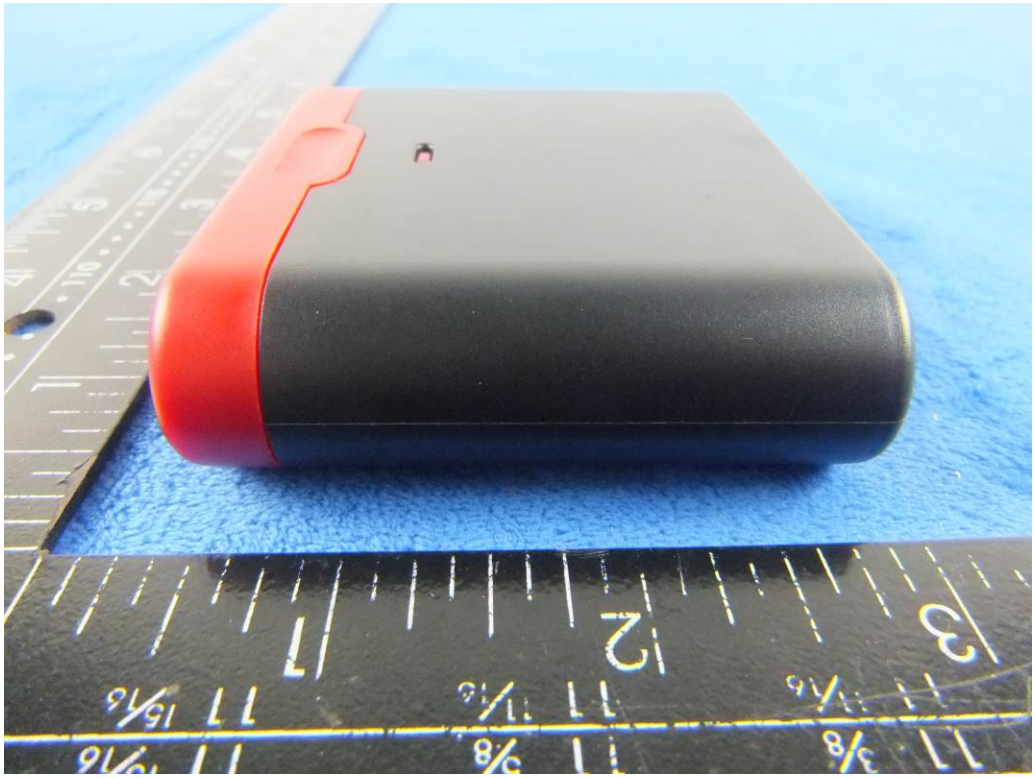
EUT - Front View

EUT - Rear View

EUT - Top View



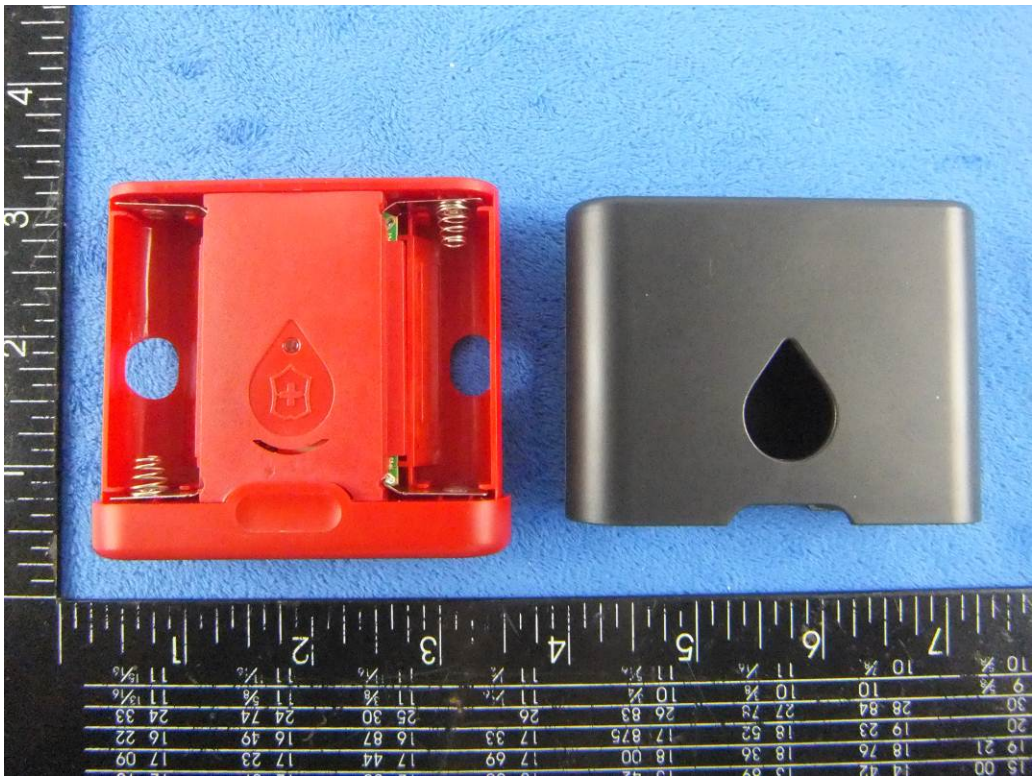
EUT - Bottom View



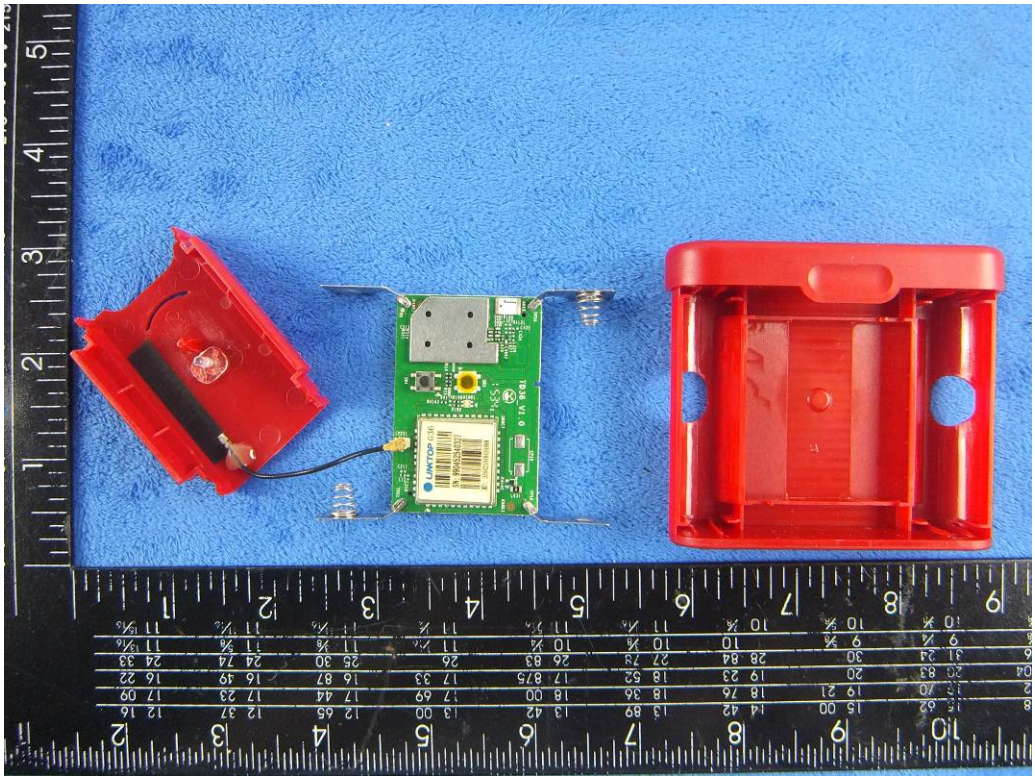
EUT - Left View

EUT - Right View

8.2 Annex B.ii. Photograph 2: EUT Internal Photo

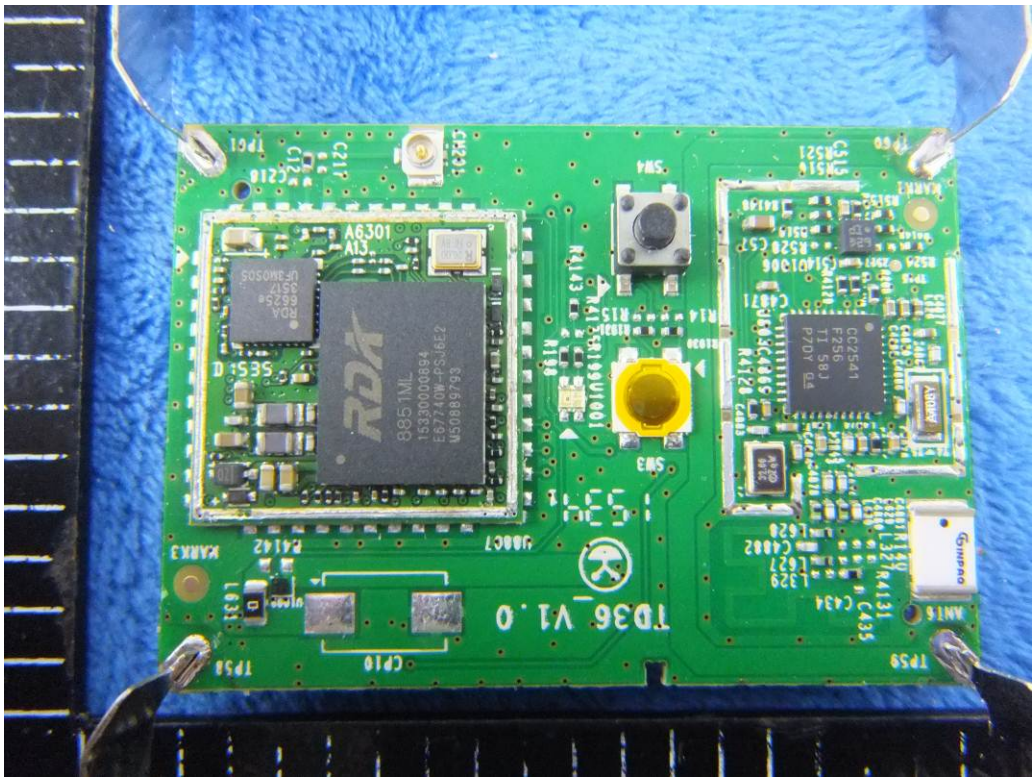


Cover Off - Top View

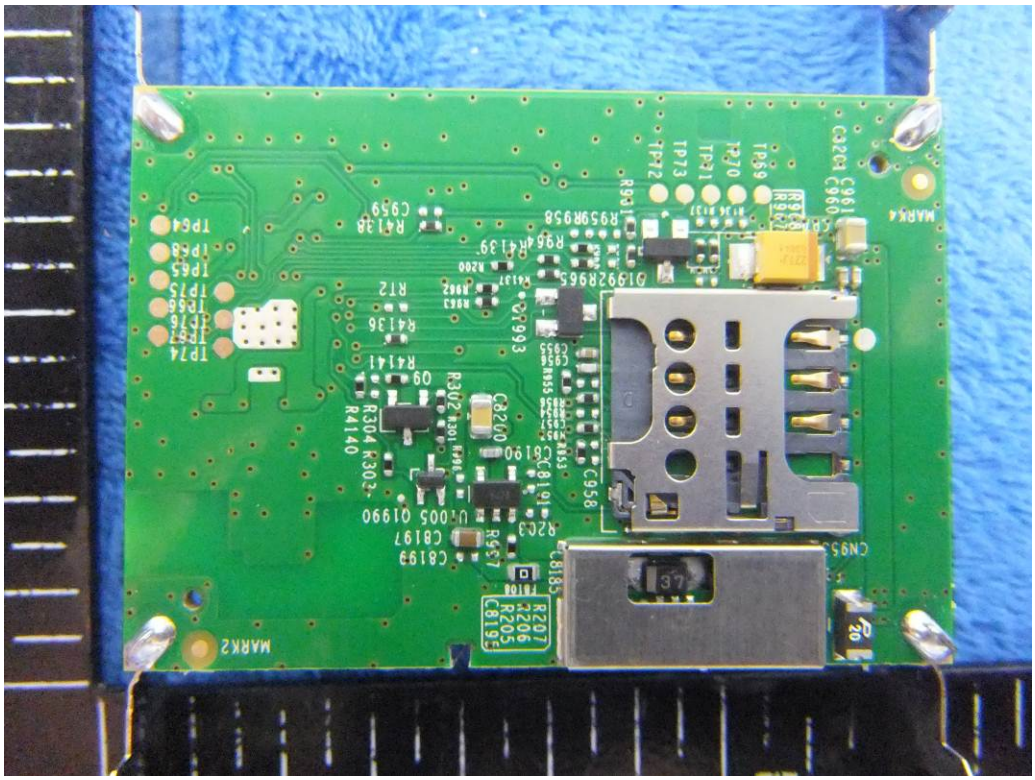


Cover Off – Main Borad View

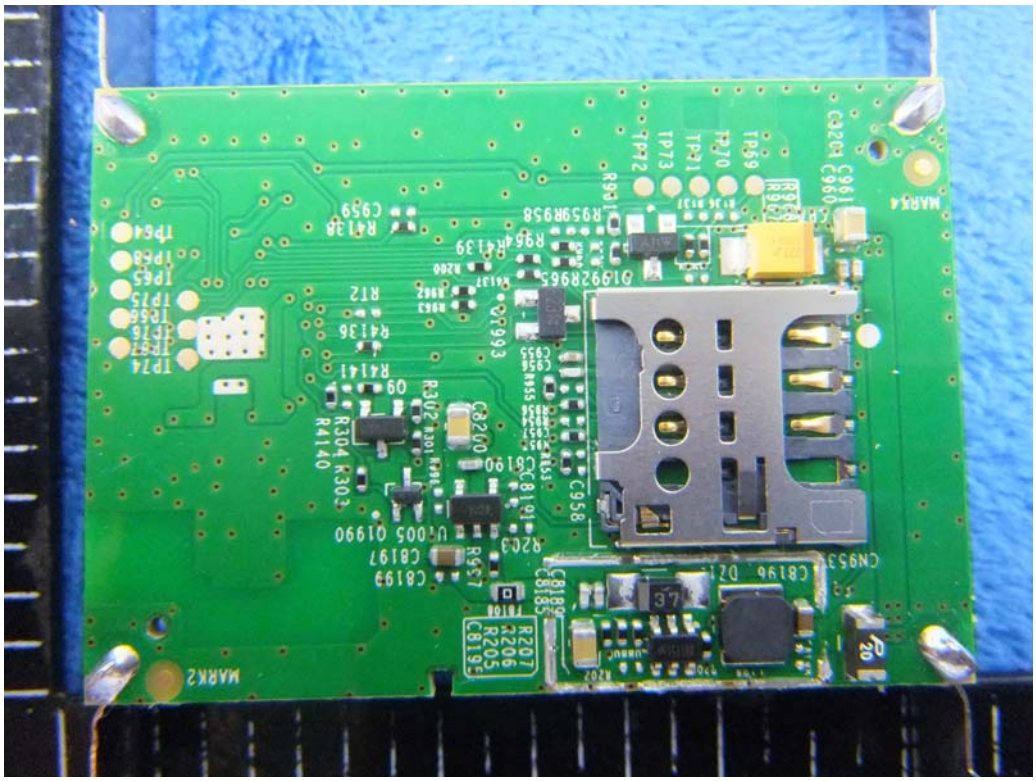
Mainboard with Shielding - Front View



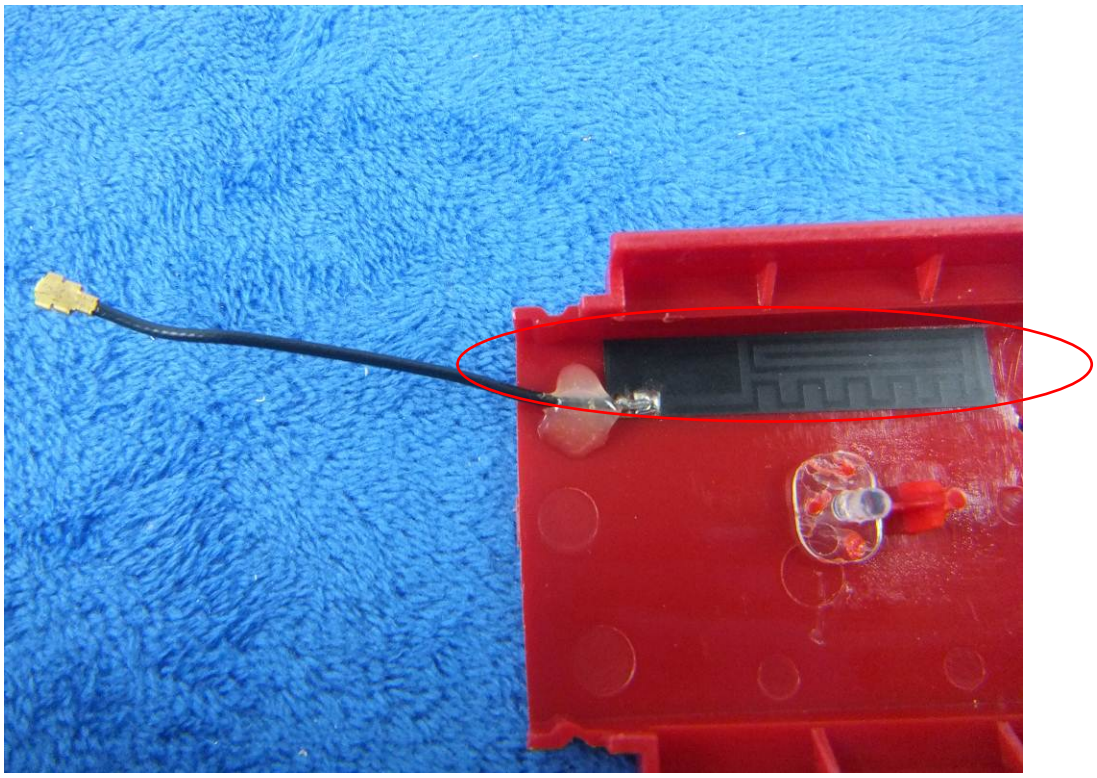
Main Borad Without Shielding - Front View



Mainboard with Shielding – Rear View



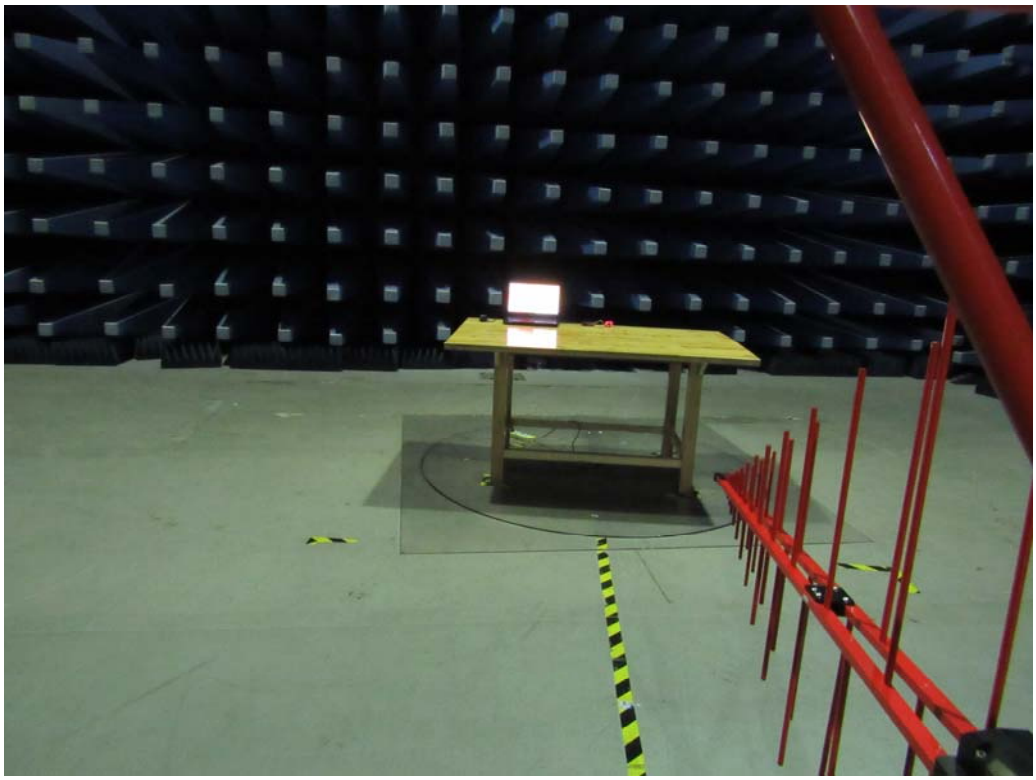
Mainboard witout Shielding - Rear View



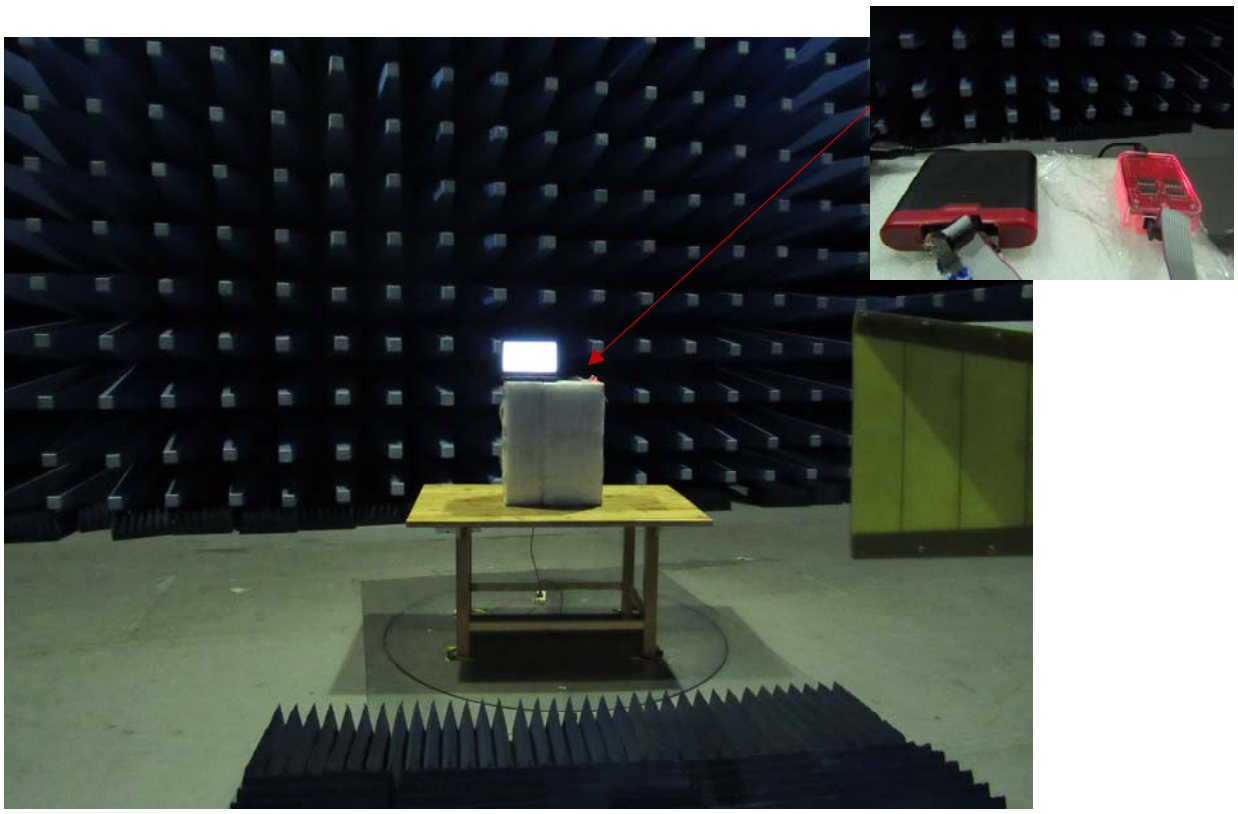
GPRS Antenna View

BLE Antenna View

8.3 Annex B.iii. Photograph 3: Test Setup Photo



Radiated Spurious Emissions Test Setup Below 1GHz - Front View



Radiated Spurious Emissions Test Setup Above 1GHz –Front View

9 Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

9.1 EUT TEST CONDITIONS

9.2 Annex C. i. SUPPORTING EQUIPMENT DESCRIPTION

The following is a description of supporting equipment and details of cables used with the EUT.

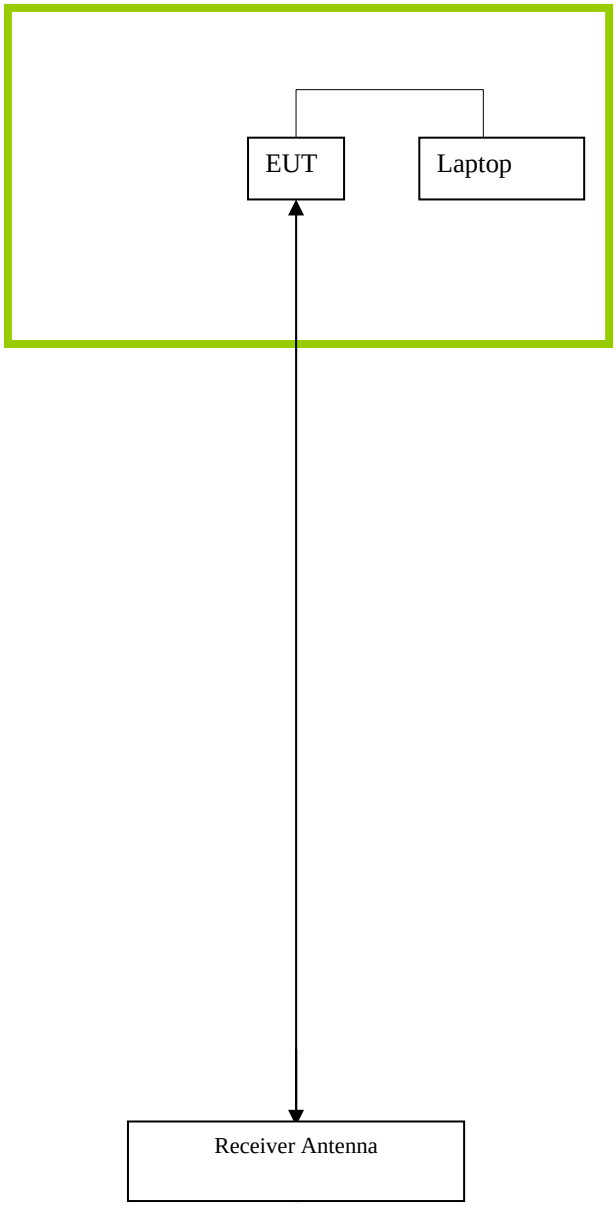
Supporting Euquipment:

Manufacturer	Equipment Description	Model	Serial No
Lenovo	Lenovo Laptop	E40& 0579A52	LR-1EHRX

Supporting Cable:

Cable type	Shield Type	Ferrite Core	Length	Serial No
Router Power cable	Un-shielding	No	2m	NH13054211
USB Cable	Un-shielding	No	0.8m	DH14552230

Block Configuration Diagram for Radiated Emissions



9.3 Annex C.ii. EUT OPERATING CONDITIONS

The following is the description of how the EUT is exercised during testing.

Test	Description Of Operation
Emissions Testing	The EUT was continuously transmitting to stimulate the worst case.

10 Annex D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PART LIST

Please see attachment

11 Annex E. DECLARATION OF SI

Globatrac

To: SIEMIC , 775 Montague Expressway. Milpitas, CA 95035, USA

Declaration Letter

Dear Sir,

We declare that the power supply of product is provided by 2 AA batteries, so the normal working voltage is 3.0V. There is a step-up DC-DC circuit in the PCBA, so the power supply of the GSM module is 3.7V.

Thank you!

Printed name/title: Harry Steck / Manager
Tel: 310-362-7200
Fax: 310-362-7255
Address: 2930 Westwood Blvd., Suite 250, Los Angeles, CA. 90064 USA

To: SIEMIC , 775 Montague Expressway, Milpitas, CA 95035,USA

Declaration Letter

Dear Sir,

For our business issue and marketing requirement, we would like to list 2 model numbers on the XX certificates and reports, as following:

Model No.: CheckSmart Luggage Tracker/SKU601169
We declare that the difference of these is listed as below:

Main Model No	Serial Model No	Difference
CheckSmart Luggage Tracker	SKU601169	Color

Thank you!

Signature:

Printed name/title: Harry Steck
Tel: 424-239 - 6200
Fax: 424-239 - 6200
Address: 2930 Westwood Blvd., Suite 250, Los Angeles, CA. 90064 USA