FCC Test Report

APPLICANT	:	LugTrack, LLC.
EQUIPMENT	:	GLOBAL LOCATOR
BRAND NAME	:	TUMI, SAMSONITE, MONTBLANC
MODEL NAME	:	014341D, 110548-1090, 110574-1090, 110620-1090, LTCS1
MARKETING NAME	:	TUMI Global Locator, Samsonite Track&Go
FCC ID	:	2AFPZ-TGL001
STANDARD	:	FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION	:	Certification

The product was completed on Jan. 16, 2018. We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.

Eric Shih

NVLAP TESTING
NVLAP LAB CODE 600156-0

Approved by: Eric Shih / Manager

Sporton International (Shenzhen) Inc.
1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City
Guangdong Province 518055 China

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC582403-04	Rev. 01	Initial issue of report	Jan. 19, 2017
FC582403-04	Rev. 02	Upgrade the Brand Name and Model Name	Jan. 23, 2017

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	Under limit 2.40 dB at 0.530 MHz
3.2	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 6.24 dB at 73.650 MHz

1. General Description

1.1. Applicant

LugTrack, LLC.
225 US Highway 35, Suite #201, Red Bank, New Jersey, 07701 USA

1.2. Manufacturer

LugTrack, LLC.
225 US Highway 35, Suite #201, Red Bank, New Jersey, 07701 USA

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	GLOBAL LOCATOR
Brand Name	TUMI, SAMSONITE, MONTBLANC
Model Name	014341D, 110548-1090, 110574-1090, 110620-1090, LTCS1
Marketing Name	TUMI Global Locator, Samsonite Track&Go
FCC ID	2AFPZ-TGL001
EUT supports Radios application	GPRS/EGPRS/WCDMA/HSPA/ HSPA+(16QAM uplink is not supported)/ WLAN2.4GHz 802.11b/g/n HT20/HT40/ Bluetooth v2.1+EDR/Bluetooth v4.0 LE
IMEI Code	Conduction: 014646000032502 Radiation: 014646000016661
HW Version	LGT-001-V1
SW Version	MOLY.WR8.W1315.MD.WG.MP.V35.P4
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a variant report for 014341D, 110548-1090, 110574-1090, 110620-1090, LTCS1. The product equality declaration could be referred to Appendix B. Based on the similarity between two models, only the test cases from original test report (Sporton Report Number FC582403) was verified for the differences.

1.4. Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz
Antenna Type	WWAN : PIFA Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna GPS : PIFA Antenna
Type of Modulation	GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : BPSK (Uplink) HSDPA : QPSK (Uplink) HSUPA : QPSK (Uplink) HSPA+ : 16QAM (16QAM uplink is not supported) 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth LE : GFSK Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π /4-DQPSK Bluetooth (3Mbps) : 8-DPSK GPS : BPSK

1.5. Modification of EUT

No modifications are made to the EUT during all test items.

1.6. Test Location

Sporton International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No. are CN5018 and CN5019.

Test Site	Sporton International (Shenzhen) Inc.	
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595	
Test Site No.	**Sporton Site No.**	**FCC Test Firm Registration No.**
	CO01-SZ	251365

Test Site	Sporton International (Shenzhen) Inc.	
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China TEL: +86-755-3320-2398	
Test Site No.	**Sporton Site No.**	**FCC Test Firm Registration No.**
	03CH03-SZ	577730

Note: The test site complies with ANSI C63.4 2014 requirement.

1.7. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2014

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of Equipment Under Test

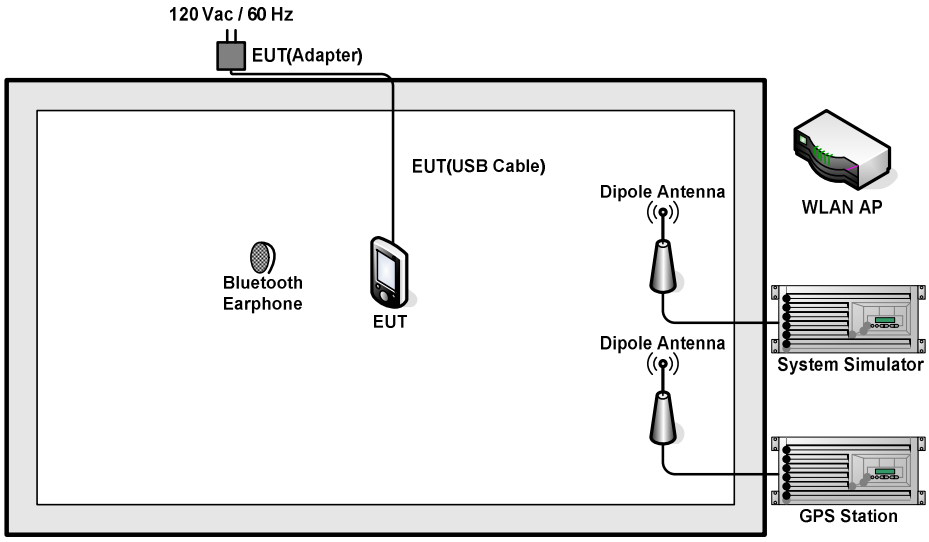
2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

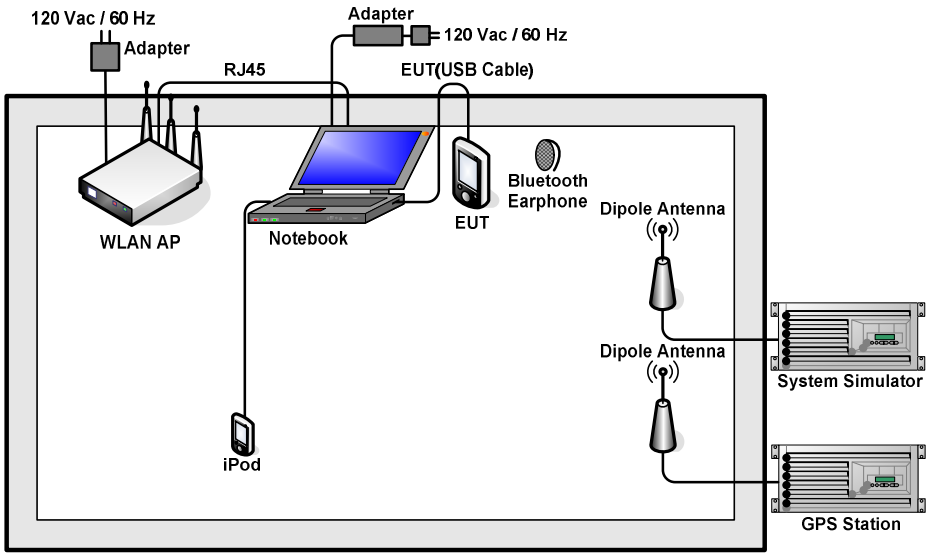
Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
AC Conducted Emission	Mode 1 : GPRS850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Battery + GPS Rx<Fig.1> Mode 2 : WCDMA Band II Idle + Bluteooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery + GPS Rx<Fig.2>
Radiated Emissions	Mode 1 : WCDMA Band II Idle + Bluteooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery + GPS Rx<Fig.2>
Remark: 1. The worst case of AC is mode 1; and the USB Link mode of AC is mode 2, the test data of these modes were reported. **2.** Data Link with Notebook means data application transferred mode between EUT and Notebook.	

2.1. Connection Diagram of Test System



<Fig.1>



<Fig.2>

2.2. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
3.	WLAN AP	D-Link	DIR-820L	KA2IR820LA1	N/A	Unshielded,1.8m
4.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded,1.8m
5.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
6.	Bluetooth Earphone	Samsung	EO-MG900	PYAHS-107W	N/A	N/A
7.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A
8.	iPod	Apple	MC525 ZP/A	DoC	Shielded, 1.0m	N/A
9.	SD Card	Kingston	MicroSD HC	FCC DoC	N/A	N/A

2.3. EUT Operation Test Setup

The EUT was in GPRS or WCDMA idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

1. Data application is transferred between Notebook and EUT via USB cable.
2. Turn on GPS function to make the EUT receive continuous signals from GPS station.

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits of AC Conducted Emission

For equipment 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.

Frequency of emission (MHz)	Conducted limit (dBuV)	
	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.

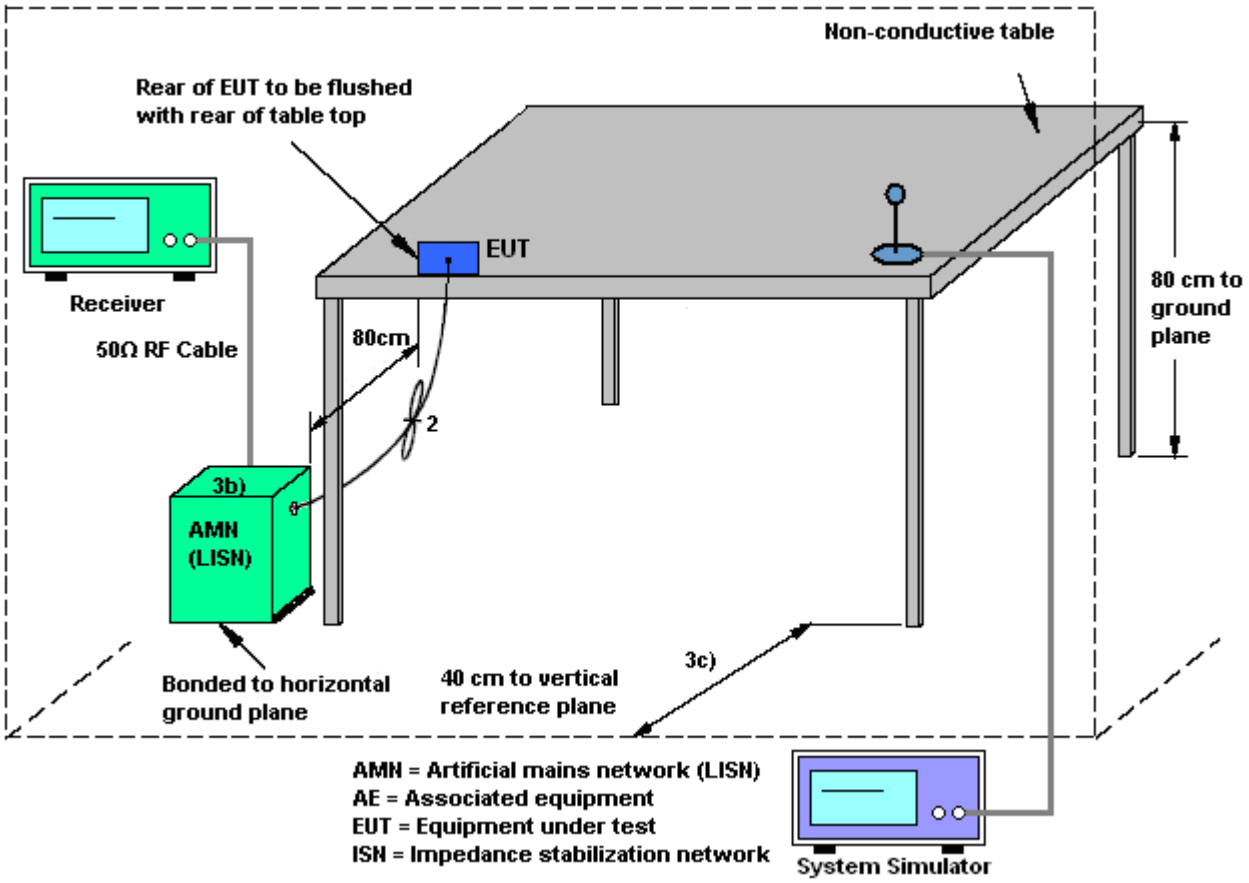
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedure

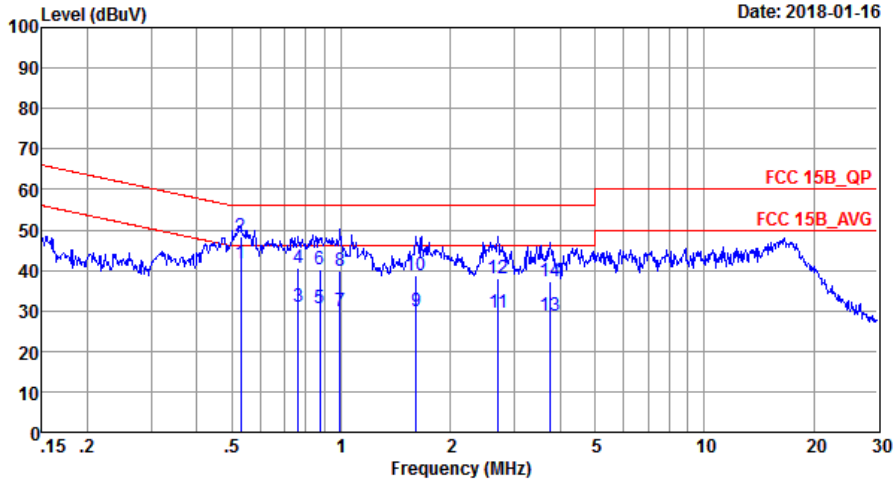
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.1.4 Test Setup



3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	22~25℃
Test Engineer :	Peng Wang	Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GPRS850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Battery + GPS Rx		

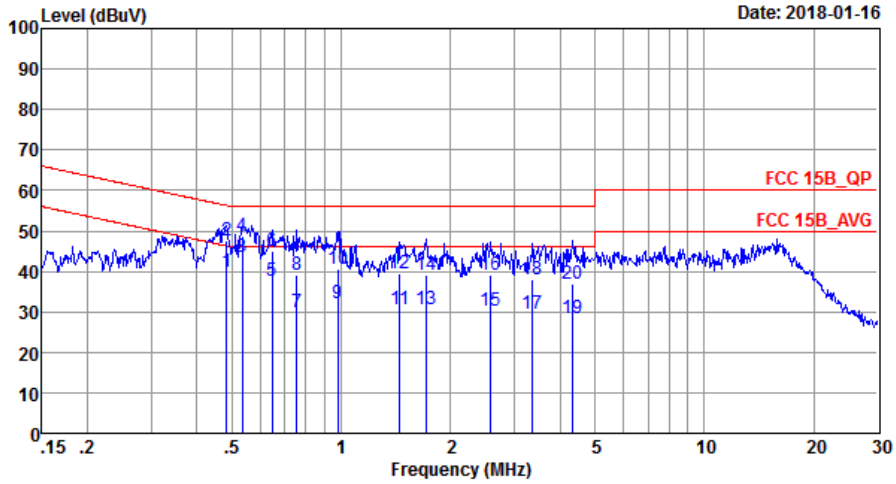


Site : CO01-SZ
Condition: FCC 15B_QP LISN_20170907_L LINE

Mode : Mode 1
IMEI : 014646000032502

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	*	0.53	41.80	-4.20	46.00	31.70	0.02	10.08	Average
2		0.53	48.30	-7.70	56.00	38.20	0.02	10.08	QP
3		0.76	31.01	-14.99	46.00	20.90	0.03	10.08	Average
4		0.76	40.61	-15.39	56.00	30.50	0.03	10.08	QP
5		0.88	30.74	-15.26	46.00	20.60	0.05	10.09	Average
6		0.88	40.14	-15.86	56.00	30.00	0.05	10.09	QP
7		0.99	29.86	-16.14	46.00	19.70	0.07	10.09	Average
8		0.99	39.76	-16.24	56.00	29.60	0.07	10.09	QP
9		1.61	29.80	-16.20	46.00	19.60	0.10	10.10	Average
10		1.61	38.60	-17.40	56.00	28.40	0.10	10.10	QP
11		2.71	29.38	-16.62	46.00	19.10	0.15	10.13	Average
12		2.71	38.08	-17.92	56.00	27.80	0.15	10.13	QP
13		3.76	28.83	-17.17	46.00	18.50	0.17	10.16	Average
14		3.76	37.43	-18.57	56.00	27.10	0.17	10.16	QP

Test Mode :	Mode 1	Temperature :	22~25℃
Test Engineer :	Peng Wang	Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GPRS850 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Battery + GPS Rx		

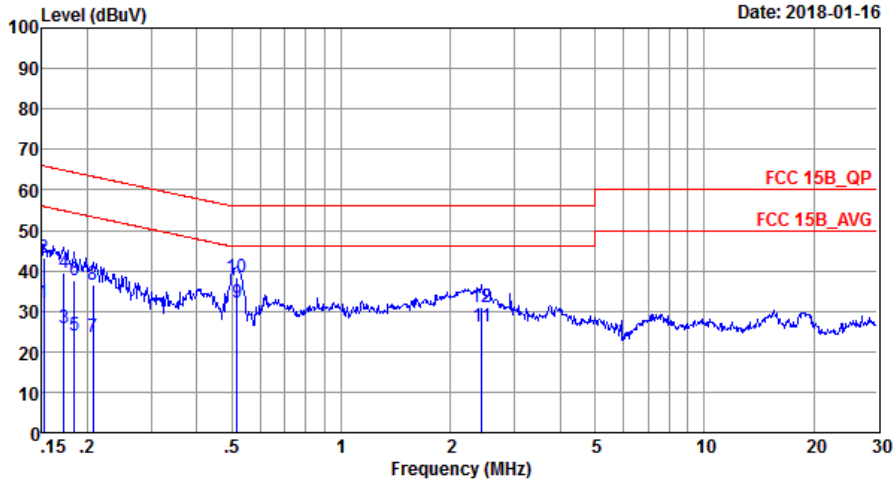


Site : CO01-SZ
Condition: FCC 15B_QP LISN_20170907_N NEUTRAL

Mode : Mode 1
IMEI : 014646000032502

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.48	39.90	-6.37	46.27	29.80	0.02	10.08	Average
2		0.48	47.50	-8.77	56.27	37.40	0.02	10.08	QP
3	*	0.53	43.60	-2.40	46.00	33.50	0.02	10.08	Average
4		0.53	48.60	-7.40	56.00	38.50	0.02	10.08	QP
5		0.64	37.50	-8.50	46.00	27.40	0.02	10.08	Average
6		0.64	44.90	-11.10	56.00	34.80	0.02	10.08	QP
7		0.75	29.91	-16.09	46.00	19.80	0.03	10.08	Average
8		0.75	39.21	-16.79	56.00	29.10	0.03	10.08	QP
9		0.98	31.94	-14.06	46.00	21.80	0.05	10.09	Average
10		0.98	40.64	-15.36	56.00	30.50	0.05	10.09	QP
11		1.45	30.45	-15.55	46.00	20.30	0.05	10.10	Average
12		1.45	39.35	-16.65	56.00	29.20	0.05	10.10	QP
13		1.72	30.55	-15.45	46.00	20.40	0.05	10.10	Average
14		1.72	39.25	-16.75	56.00	29.10	0.05	10.10	QP
15		2.58	30.26	-15.74	46.00	20.09	0.04	10.13	Average
16		2.58	38.96	-17.04	56.00	28.79	0.04	10.13	QP
17		3.36	29.49	-16.51	46.00	19.30	0.04	10.15	Average
18		3.36	37.99	-18.01	56.00	27.80	0.04	10.15	QP
19		4.34	28.53	-17.47	46.00	18.30	0.06	10.17	Average
20		4.34	36.93	-19.07	56.00	26.70	0.06	10.17	QP

Test Mode :	Mode 2	Temperature :	22~25℃
Test Engineer :	Peng Wang	Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery + GPS Rx		

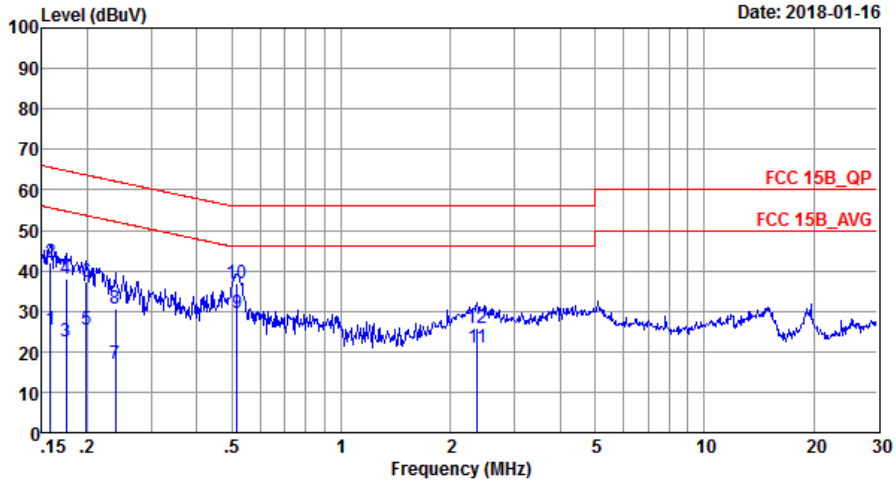


Site : CO01-SZ
Condition: FCC 15B_QP LISN_20170907_L LINE

Mode : Mode 2
IMEI : 014646000032502

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.15	32.19	-23.72	55.91	22.10	0.03	10.06	Average
2		0.15	43.29	-22.62	65.91	33.20	0.03	10.06	QP
3		0.17	26.00	-28.86	54.86	15.90	0.03	10.07	Average
4		0.17	39.40	-25.46	64.86	29.30	0.03	10.07	QP
5		0.18	23.90	-30.38	54.28	13.80	0.03	10.07	Average
6		0.18	37.80	-26.48	64.28	27.70	0.03	10.07	QP
7		0.21	23.60	-29.72	53.32	13.50	0.03	10.07	Average
8		0.21	36.40	-26.92	63.32	26.30	0.03	10.07	QP
9	*	0.52	32.00	-14.00	46.00	21.90	0.02	10.08	Average
10		0.52	38.20	-17.80	56.00	28.10	0.02	10.08	QP
11		2.43	26.16	-19.84	46.00	15.91	0.13	10.12	Average
12		2.43	30.96	-25.04	56.00	20.71	0.13	10.12	QP

Test Mode :	Mode 2	Temperature :	22~25℃
Test Engineer :	Peng Wang	Relative Humidity :	50~55%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery + GPS Rx		



Site : CO01-SZ
Condition: FCC 15B_QP LISN_20170907_N NEUTRAL

Mode : Mode 2
IMEI : 014646000032502

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.16	25.39	-30.17	55.56	15.30	0.03	10.06	Average
2		0.16	41.89	-23.67	65.56	31.80	0.03	10.06	QP
3		0.17	22.40	-32.32	54.72	12.30	0.03	10.07	Average
4		0.17	37.90	-26.82	64.72	27.80	0.03	10.07	QP
5		0.20	25.30	-28.37	53.67	15.20	0.03	10.07	Average
6		0.20	37.30	-26.37	63.67	27.20	0.03	10.07	QP
7		0.24	17.00	-35.13	52.13	6.90	0.03	10.07	Average
8		0.24	30.70	-31.43	62.13	20.60	0.03	10.07	QP
9	*	0.52	29.60	-16.40	46.00	19.50	0.02	10.08	Average
10		0.52	36.80	-19.20	56.00	26.70	0.02	10.08	QP
11		2.37	20.86	-25.14	46.00	10.70	0.04	10.12	Average
12		2.37	25.76	-30.24	56.00	15.60	0.04	10.12	QP

3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2. Measuring Instruments

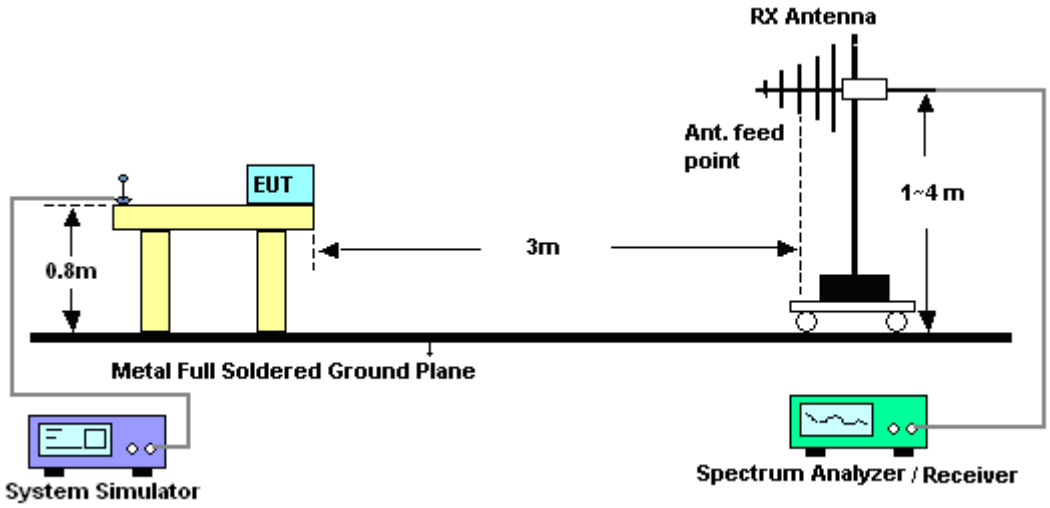
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

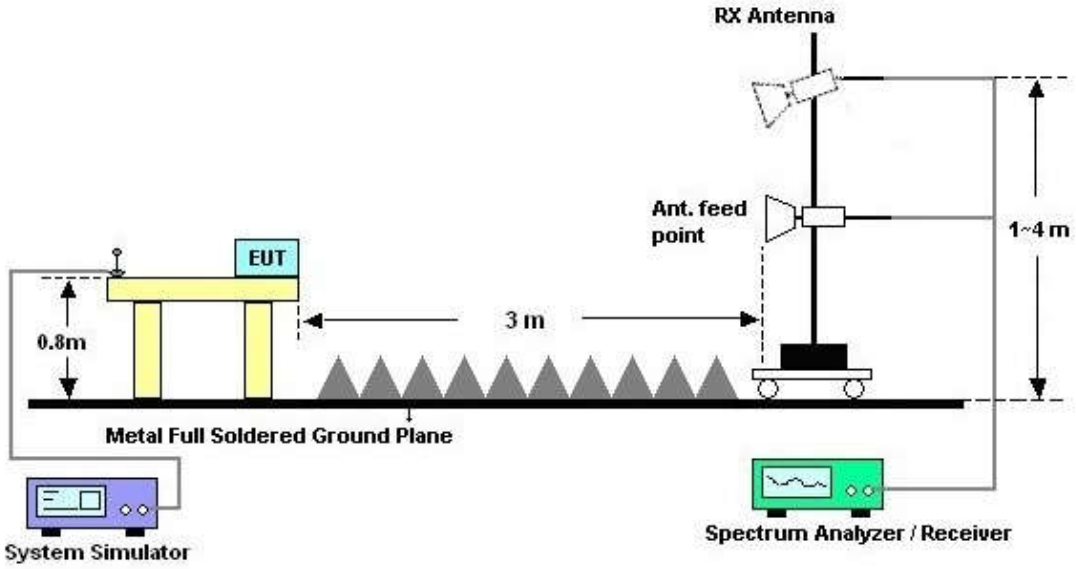
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBμV/m) = 20 log Emission level (μV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

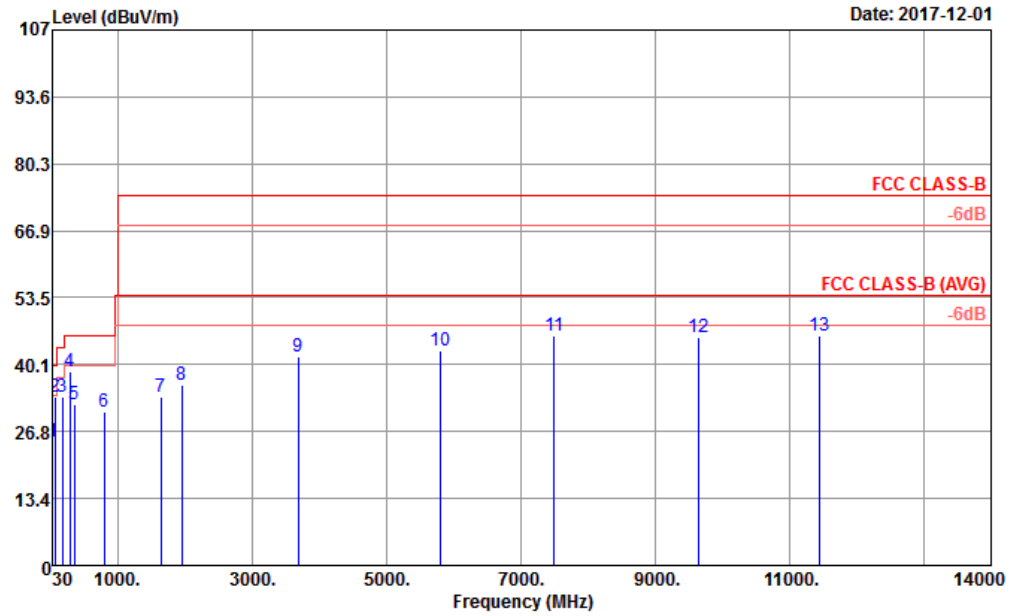


For radiated emissions above 1GHz



3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 1	**Temperature :**	24~25℃
Test Engineer :	Liu Lun	**Relative Humidity :**	48~49%
Test Distance :	3m	**Polarization :**	Horizontal
Function Type :	WCDMA Band II Idle + Bluteooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery + GPS Rx		
Remark :	#8 is system simulator signal which can be ignored.		

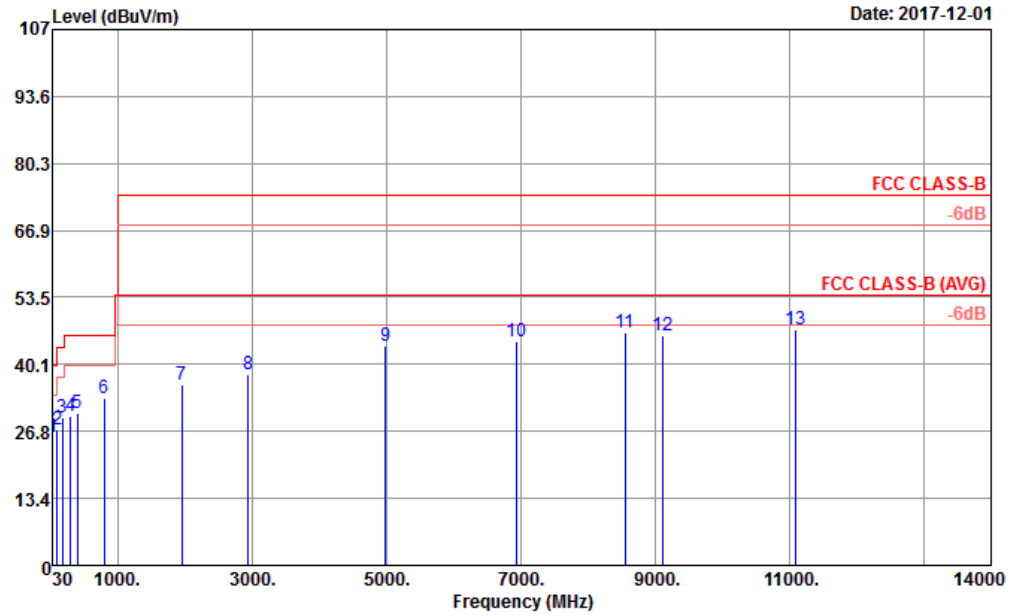


Site : 03CH03-SZ
Condition : FCC CLASS-B 3m LF35408CBL6112D_6 HORIZONTAL

Project : (FC)582403-04
Mode : Mode 1
IMEI : 014646000016661

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	24.63	-15.37	40.00	29.97	26.70	0.56	32.60	---	---	Peak
2	73.65	33.76	-6.24	40.00	51.36	14.02	0.88	32.50	100	165	Peak
3	181.32	33.61	-9.89	43.50	47.44	16.42	1.37	31.62	---	---	Peak
4	286.08	38.74	-7.26	46.00	50.19	18.80	1.78	32.03	---	---	Peak
5	358.83	32.16	-13.84	46.00	40.67	21.39	2.00	31.90	---	---	Peak
6	796.30	30.78	-15.22	46.00	31.91	27.39	3.09	31.61	---	---	Peak
7	1642.00	33.75	-40.25	74.00	62.79	25.29	4.16	58.49	---	---	Peak
8	1960.00	36.04			63.96	26.07	4.55	58.54	---	---	Peak
9	3692.00	41.61	-32.39	74.00	63.80	28.93	7.40	58.52	---	---	Peak
10	5796.00	42.81	-31.19	74.00	59.44	32.30	9.33	58.26	---	---	Peak
11	7494.00	45.79	-28.21	74.00	58.94	36.00	10.35	59.50	---	---	Peak
12	9648.00	45.63	-28.37	74.00	56.29	38.66	11.25	60.57	---	---	Peak
13	11446.00	45.90	-28.10	74.00	53.24	40.26	12.03	59.63	100	105	Peak

Test Mode :	Mode 1	Temperature :	24~25℃
Test Engineer :	Liu Lun	Relative Humidity :	48~49%
Test Distance :	3m	Polarization :	Vertical
Function Type :	WCDMA Band II Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + Battery + GPS Rx		
Remark :	#7 is system simulator signal which can be ignored.		



Site : 03CH03-SZ
Condition : FCC CLASS-B 3m LF35408CBL6112D_6 VERTICAL

Project : (FC)582403-04
Mode : Mode 1
IMEI : 014646000016661

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	25.75	-14.25	40.00	31.09	26.70	0.56	32.60	---	---	Peak
2	99.84	27.14	-16.36	43.50	39.41	18.80	1.03	32.10	---	---	Peak
3	175.50	29.58	-13.92	43.50	43.27	16.68	1.35	31.72	---	---	Peak
4	298.69	29.78	-16.22	46.00	40.89	19.08	1.82	32.01	---	---	Peak
5	398.60	30.52	-15.48	46.00	34.41	25.89	2.12	31.90	---	---	Peak
6	800.18	33.39	-12.61	46.00	34.49	27.40	3.10	31.60	100	125	Peak
7	1960.00	36.18			64.10	26.07	4.55	58.54	---	---	Peak
8	2950.00	38.18	-35.82	74.00	62.00	28.49	6.34	58.65	---	---	Peak
9	4992.00	43.94	-30.06	74.00	61.71	31.90	8.65	58.32	---	---	Peak
10	6944.00	44.56	-29.44	74.00	58.74	34.97	10.06	59.21	---	---	Peak
11	8556.00	46.57	-27.43	74.00	58.15	37.27	10.82	59.67	---	---	Peak
12	9110.00	45.78	-28.22	74.00	57.23	37.33	11.13	59.91	---	---	Peak
13	11094.00	47.12	-26.88	74.00	54.81	40.06	11.90	59.65	100	150	Peak

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Receiver	R&S	ESR7	101630	9kHz~7GHz;	Dec. 26, 2017	Jan. 16, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103912	9kHz~30MHz	Dec. 26, 2017	Jan. 16, 2018	Dec. 25, 2018	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103892	9kHz~30MHz	Nov. 01, 2017	Jan. 16, 2018	Oct. 31, 2018	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 19, 2017	Jan. 16, 2018	Jul. 18, 2018	Conduction (CO01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 20, 2017	Dec. 01, 2017	Apr. 19, 2018	Radiation (03CH03-SZ)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 20, 2017	Dec. 01, 2017	Apr. 19, 2018	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	May 14, 2017	Dec. 01, 2017	May 13, 2018	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Jul. 09, 2017	Dec. 01, 2017	Jul. 08, 2018	Radiation (03CH03-SZ)
LF Amplifier	Burgeon	BPA-530	102210	0.01Hz ~3000MHz	Oct. 19, 2017	Dec. 01, 2017	Oct. 18, 2018	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 19, 2017	Dec. 01, 2017	Oct. 18, 2018	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Dec. 01, 2017	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Dec. 01, 2017	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Dec. 01, 2017	NCR	Radiation (03CH03-SZ)

NCR: No Calibration Required

5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.5dB**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1dB**

Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0dB**

Appendix B. Product Equality Declaration

LugTrack, LLC.

225 US Highway 35, Suite #201, Red Bank, New Jersey, 07701 USA

Date: January 19, 2018

Product Equality Declaration

We, LugTrack, LLC., declare on our sole responsibility for the differences between initially FCC-certified product:
FCC ID: 2AFPZ-TGL001
BRAND NAME: TUMI
MODEL NAME: 014341D
MARKETING NAME: TUMI Global Locator
and the current product:
FCC ID: 2AFPZ-TGL001
BRAND NAME: "TUMI" or "SAMSONITE" or "MONTBLANC"
MODEL NAME: "014341D" or "110548-1090" or "110574-1090" or "110620-1090" or "LTCS1"
MARKETING NAME: "TUMI Global Locator" or "Samsonite Track&Go"
which are listed as below:

1. Change of RAM

Description:
Original component defined and used on the first risk batch production as during certification , namely, ELPIDA with p.n. B4432BAPA-8D-F had to be substituted by the market equivalent comeponent by LEAHKINN with p.n KPN005DS-ZHw1.
The LEAHKINN product is equivalent in terms of layout, performance and electrical specs:
512Mb LP-DDR2
Density: 4G bits
Organization 16M words × 32 bits × 8 banks
Package: 168-ball FBGA
Package size: 12.0mm × 12.0mm
Power supply:VDD1 = 1.70V to 1.95V

Cause:
ELPID Memory failure and relative obsolescence and lack of availability of their market led to the selection of a pin to pin compatible solution which was found in the LEAHKINN RAM.
The new component has been tested internally and as there has not been any PCBA rerouting, no Software adaptation/modification, seen the exact "characteristics" of both components, we can declare the component has no impact in the overall device RF or power management nor electrical safety.

2. Change of ROM

   Description:

   Longsys FORESEE eMMC NCEFES88-04G eMMC ROM has been substituted with the equivalent component FORESEE NCEMAD7B-08G provided by the same Manufacturer but with upgraded storage capacity from 4GB to 8GB.

   Cause:

   Shenzhen based Longsys Technology has stopped producing the 04GB eMMC ROM components FORESEE NCEFES86-04G and actually the 4GB eMMC chips in general as the market is requiring a higher minimum storage standard, which is now 8 GB.

   To be able to produce our device we had to adapt to market decisions and switch to the upgraded version of the same vendor.

   The component does not have any difference in the logic, layout nor electrical characteristics. The substitution did not impact the PCBA layout nor the SW hence non impact in the overall RF and power management.

3. Change of RF amplifier:

   SKY77592 is a transmit and receive Front End Module (FEM) that has the same function and electrical parameters characteristics of the VANCHIP VC7590-21.

   Cause:

   Limited availability during supply management

4. Visual change of USB daughter board :

   slight visual difference and removal of a not used IC.

   Cause:

   industrialization of a sample used for certification purposes only, gerber files prove the routing is exactly the same.

5. WIFI and main RF antenna change.

   Description:

   Copper trace modification.

   Cause:

   the antenna was changed to adapt to 3GPP / ATT&T standard of TRP and TIS, the copper traces are sligthly different in shape but the values are inside the parameters as confirmed by the result testing from PTCRB OTA.

Except for those mentioned above, the remaining parts are identical.
Should you have any questions or comments regarding this matter, please have my best attention.

Sincerely yours,

Davide Fattor
Project Manager
LugTrack, LLC.
dfattor@lugtrack.com