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To : ThingM Date : November 25, 2016

Attn. : Mr. Tod E. Kurt

From : Kan Chung Ting, Clement

RE: Final Reminder for the documents required by DOC Technical File (16100382HKG-001)
Model: Blink(1) mk2

In order to complete your DOC Technical File, please be reminded that the following documents shall be added in the DOC Technical File:

	Remark
☒ The Signature of the Responsible Party in USA	
☐ General Description of the Product	
☒ Block Diagram	
☒ Circuit Diagram	
☒ Bill of Material	
☒ PCB Layout	
☒ Technical Specification	
☒ Production Inspection Procedure	
☒ Production Testing Procedure (If the tests were performed)	
☐ User and Instruction Manual with FCC Required Statement	

If you have any question or require any additional information, please feel free to contact us by phone: (852) 2173-8521 or by fax: (852) 2371-0914.

Best Regards,

Signed On File
Kan Chung Ting, Clement
Lead Engineer
Date: November 25, 2016

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FCC Part 15
Technical Folder
Subject to
Declaration of Conformity
Procedure

Product Description	:	Indicator Light
Model Number	:	Blink(1) mk2
Trade Name	:	ThingM
Responsible Party	:	ThingM Corporation 1126 Palm Terrace, Pasadena, CA 91104, USA. Tel.: +1 (626) 398-0767 Fax: +1 (626) 398-0767
Testing Laboratory	:	Intertek Testing Service Hong Kong Ltd. 2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.

Note 1: This technical folder is a record of the measurements and should be read in conjunction with test report no. 16100382HKG-001.

Note 2: The compliance information has been stated on the last page of test report.

For and on behalf
of Responsible Party

Tod E. Kurt
Date:

For and on behalf
of Testing Laboratory

Tse Ying, Cathy
Senior Lead Engineer
Date: November 25, 2016

Table of Content

Exhibit 1 : General Description & Technical Information

Exhibit 2 : Production Inspection & Testing Procedure

Exhibit 3 : Test Report

Exhibit 4 : User Manual

Exhibit 1 : General Description & Technical Information

1) General Description of Product

2) Block Diagram

3) Circuit Diagram

4) PCB Layout

5) Bill of Material

6) Technical Specification

General Description of Product

The model(s) covered by this technical folder is Blink(1) mk2.

The Equipment Under Test (EUT) is a small USB light and it is powered by USB port of 5.0VDC, it can give user glanceable notice of anything on computer or the internet, also it can using 'Blink1 Control app' to setup color patterns.

For more detailed features description, please refer to the user's manual.

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Exhibit 2 : Production Inspection & Testing Procedure

1) Production Inspection Procedure

2) Production Testing Procedure
(if the tests were performed)

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Exhibit 3 : Test Report

1) Test Report Number: 16100382HKG-001 dated November 25, 2016.

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Issuing Laboratory:
Intertek Testing Services Hong Kong Limited
HKAS has accredited this laboratory (Reg. No. HOKLAS 005) under HOKLAS for specific laboratory activities as listed in the HOKLAS directory of accredited laboratories.

HOKLAS 005 TEST

EMC
Test Report

EQUIPMENT UNDER TEST

Type of equipment:	Indicator Light
Model:	Blink(1) mk2
Type:	ThingM
Applicant:	ThingM Uberlandstrasse 129, Pico Rivera, CA, US, 90660-3712.

STANDARDS	TEST REPORTS
47 CFR Part 15 [10-01-14 Edition]	16100382HKG-001

SUMMARY OF RESULTS

The sample of the above item complies with the FCC Part 15, Subpart B requirement.

Tse Ying, Cathy
Senior Lead Engineer

Date: November 25, 2016

* This page is part of the full report and should be read in conjunction with it.

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Issuing Laboratory:
Intertek Testing Services Hong Kong Limited

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HOKLAS 005 TEST

EMC VERIFICATION SUMMARY

Report No.: 16100382HKG-001

☐ Electric Household Products ☐ ITE ☒ Others Indicator Light

Model: Blink(1) mk2 Product Description: Indicator Light	Applicant: ThingM Uberlandstrasse 129, Pico Rivera, CA, US, 90660-3712.
Sample Receipt Date: October 13, 2016	
Testing Dates: October 13, 2016 to October 20, 2016	
☒ Tested by Intertek without any modification ☐ Tested by Intertek after modification installed by an independent consultant (Detailed modification refers to Modification Report)	
ALL TESTS WERE CONDUCTED IN ACCORDANCE WITH * 47 CFR Part 15 [10-01-14 Edition] * (ANSI) C63.4-2014	
Test Results: The sample as received complied with the 47 CFR Part 15 [10-01-14 Edition], Subpart B requirement.	
Notes: When determining the test result, the Measurement Uncertainty of test has been considered.	

Remark: Nil

Prepared and checked by:

Kan Chung Ting, Clement/sl
Lead Engineer

Approved by:

Tse Ying, Cathy
Senior Lead Engineer

Date: November 25, 2016

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EMC Results

RE: EMC Testing Pursuant to FCC Part 15, Subpart B Requirement Performed On The Indicator Light,
Model: Blink(1) mk2

Upon receipt of the sample of the Indicator Light, Model: Blink(1) mk2, we tested the sample to determine if it was in compliance with the FCC Part 15, Subpart B requirement.

The system was configured for testing in a typical fashion (as a customer would normally use it). The system was tested during data transfer from the Indicator Light to the personal computer.

During testing, the peripheral locations were not varied with respect to the main unit.

The arrangement of the cables dangling from the rear of the table was varied to the extent possible to produce the maximum emissions, but none were within 40cm of the ground plane.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data recorded in this report.

This report verifies that the Indicator Light, model Blink(1) mk2 is compliant with FCC Part 15, Subpart B requirement.

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Laboratory Location

1. Radiated Emissions measurements were performed according to the procedures in ANSI C63.4 (2014). Measurements from 30MHz to 1000MHz were performed in 3m Chamber located at:

   Workshop No. 3, G/F.,
   World-Wide Industrial Centre,
   43-47 Shan Mei Street, Fo Tan,
   Sha Tin, N.T., Hong Kong.

2. Conducted Emissions measurements also followed the procedures in ANSI C63.4 (2014). The testing site located at:

   Workshop No. 3, G/F.,
   World-Wide Industrial Centre,
   43-47 Shan Mei Street, Fo Tan,
   Sha Tin, N.T., Hong Kong.

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Equipment List

1) Radiated Emissions Tests for FCC Part 15

Equipment	EMI Test Receiver	Spectrum Analyzer
Registration No.	EW-3156	EW-2466
Manufacturer	R&S	R&S
Model No.	ESR26	FSP30
Serial No.	101398	101188
Calibration Institute	R&S Germany	CEPREI
Calibration Certificate No.	0031	2HB 1600 1417-0002
Calibration Date	Nov. 03, 2015	Oct. 03, 2016
Calibration Due Date	Nov. 03, 2016	Aug. 20, 2017
Traceability	DAkkS Germany	CNAS

Equipment	BiConiLog Antenna	Double Ridged Guide Antenna
Registration No.	EW-3061	EW-1133
Manufacturer	EMCO	EMCO
Model No.	3142E	3115
Serial No.	00166104	0003-6091
Calibration Institute	Liberty Labs	Liberty
Calibration Certificate No.	160906-134600-bff933 - per ANSI C63.5:2006 and ANSI C63.4:2014	151104-150254-b54277
Calibration Date	Sep. 23, 2016	Nov. 05, 2015
Calibration Due Date	Sep. 23, 2017	May 05, 2017
Traceability	A2LA	A2LA

2) Conducted Emissions Test for FCC Part 15

Equipment	EMI Test Receiver	LISN
Registration No.	EW-2251	EW-2501
Manufacturer	R&S	R&S
Model No.	ESCI	ENV-216
Serial No.	100350	100483
Calibration Institute	HuaNan SCM	HuaNan SCM
Calibration Certificate No.	WWS 2016 00041	WWC 2016 00084
Calibration Date	Dec. 29, 2015	Jan. 28, 2016
Calibration Due Date	Nov. 15, 2016	Jan. 28, 2017
Traceability	CNAS	CNAS

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LABORATORY MEASUREMENTS

Configuration Information

Equipment Under Test (EUT):	Indicator Light
Model:	Blink(1) mk2
Serial No.:	Not Labelled
Support Equipment:	1. Notebook HP ProBook 430G1 2. Seagate 1TB USB 3.0 Ext. HDD (Provided by Intertek)
Cables:	1. 1 x USB cable with length of 0.7 meter long (Provided by Intertek) 2. 1 x USB shielded cable with length of 1.8 meter long (Provided by Applicant)
Adaptor:	N/A
Exercising Software:	N/A
Rated Voltage:	Powered by USB port

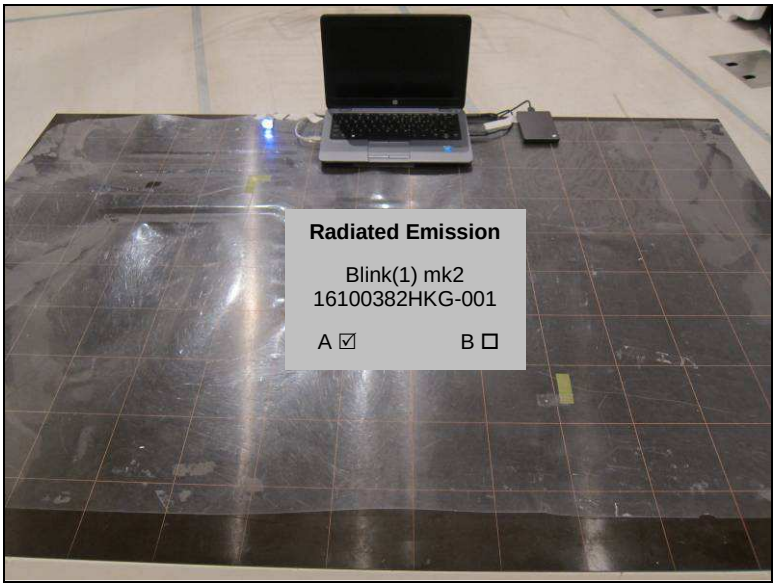
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Tel: (852) 2173 8888 Fax: (852) 2785 5487 Website: www.hk.intertek-etlsemko.com

Operating mode: Color Cycle

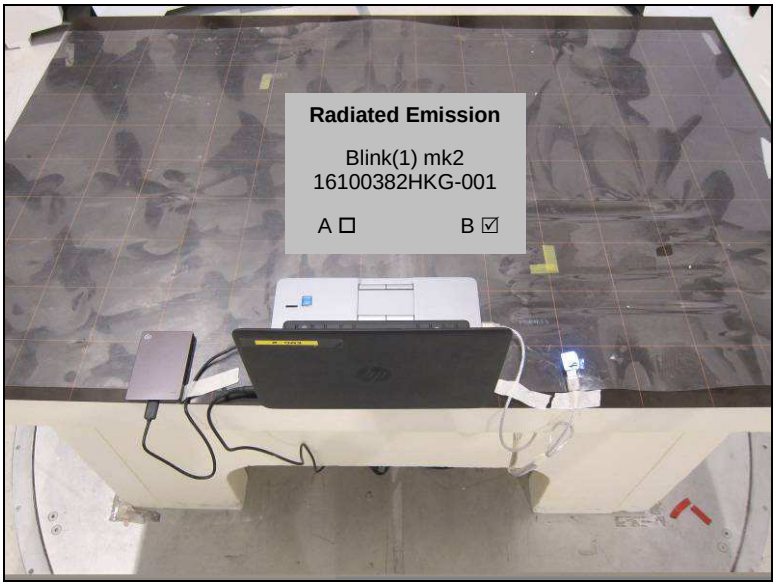
System Configuration Photograph

(Radiated Emission)

Front View



Back View



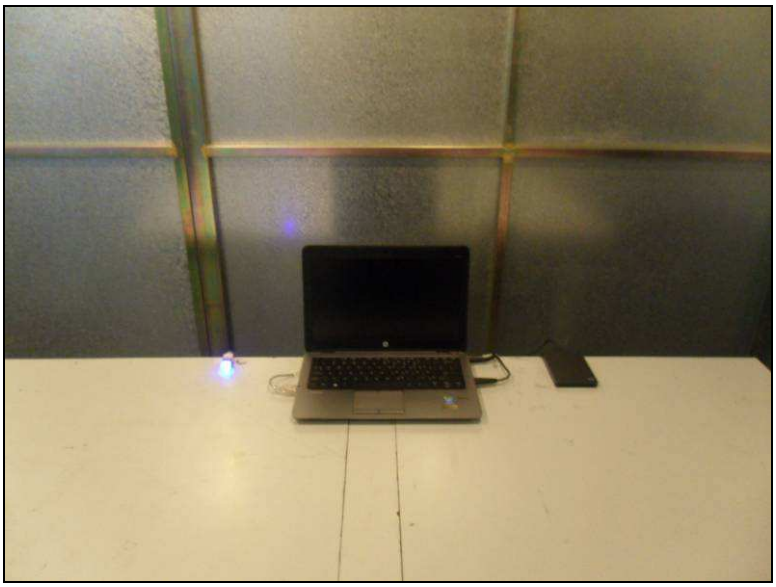
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Operating mode: Color Cycle

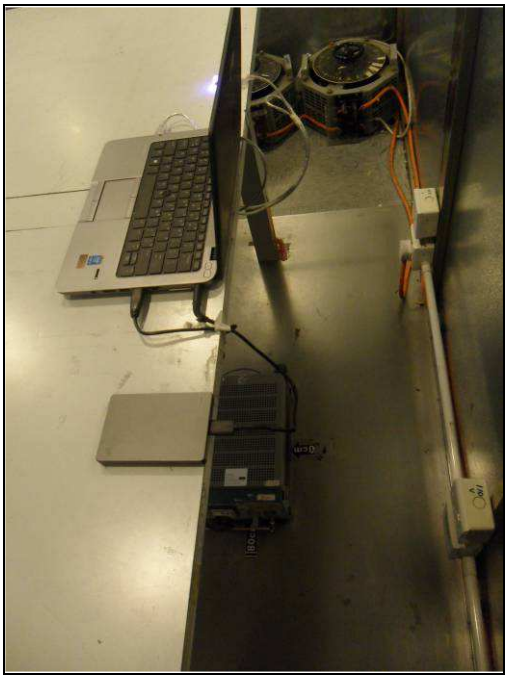
System Configuration Photograph

(Conducted Emission)

Front View



Rear View 1



Rear View 2



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Applicant: ThingM
Model: Blink(1) mk2
Operating mode: Color Cycle

Report No.: 16100382HKG-001

Data Table 1

Radiated Emission Test Pursuant to FCC Part 15, Subpart B Requirement

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	112.750	23.5	16	14.0	21.5	43.5	-22.0
H	215.978	24.3	16	17.0	25.3	43.5	-18.2
H	252.175	35.0	16	20.0	39.0	46.0	-7.0
H	274.965	24.9	16	22.0	30.9	46.0	-15.1
H	319.328	25.2	16	23.0	32.2	46.0	-13.8
H	345.043	25.2	16	24.0	33.2	46.0	-12.8
V	367.712	24.2	16	24.0	32.2	46.0	-13.8
V	406.225	25.2	16	24.0	33.2	46.0	-12.8
V	422.190	24.2	16	25.0	33.2	46.0	-12.8
H	500.921	25.8	16	26.0	35.8	46.0	-10.2
V	603.418	19.6	16	29.0	32.6	46.0	-13.4
H	799.759	15.8	16	31.0	30.8	46.0	-15.2

Notes:
1. Quasi-Peak Detector Data.
2. Negative sign (–) in the margin column signify levels below the limit.
3. Electric field radiated emissions were reported in units of dB referenced to 1 microvolt per meter [dB(µV/m)].
4. Frequency range scanned: 30MHz to 1000MHz.
5. Uncertainty: ±5.3dB at a level of confidence of 95%.
6. From 30MHz to 1000MHz, measurements were made at 3m Chamber.

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Graph 1

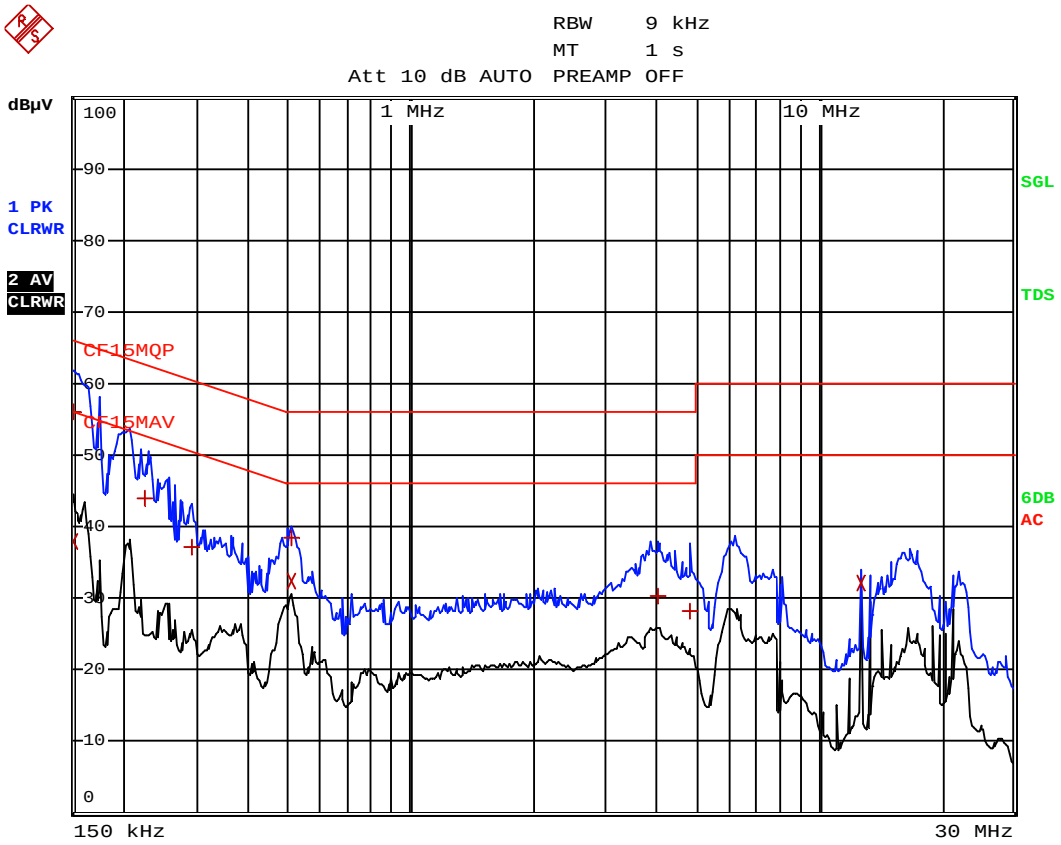
Conducted Emissions
FCC Part 15, Subpart B Requirement

Notes:
1. Uncertainty: ±4.2dB at a level of confidence of 95%.
2. QP: Quasi-Peak Detector readings.
3. The conducted emissions were reported in units of dB referenced to 1 microvolt [dBµV].

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Applicant: ThingM
Model: Blink(1) mk2
Operating mode: Color Cycle

Report No.: 16100382HKG-001



160100382HKG-001 (Color Cycle)

Date: 14.OCT.2016 10:14:54

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Table 1

Conducted Emissions
FCC Part 15, Subpart B Requirement

Notes:
1. Uncertainty: ±4.2dB at a level of confidence of 95%.
2. QP: Quasi-Peak Detector readings.
3. The conducted emissions were reported in units of dB referenced to 1 microvolt [dBµV].

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Tel: (852) 2173 8888 Fax: (852) 2785 5487 Website: www.hk.intertek-etlsemko.com

Applicant: ThingM
Model: Blink(1) mk2
Operating mode: Color Cycle

Report No.: 16100382HKG-001

EDIT PEAK LIST (Final Measurement Results)

Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	150 kHz	56.15	L1	-9.84
2	CISPR Average	150 kHz	37.82	N	-18.17
1	Quasi Peak	226.5 kHz	43.97	N	-18.59
1	Quasi Peak	294 kHz	37.07	N	-23.33
1	Quasi Peak	510 kHz	38.53	N	-17.46
2	CISPR Average	510 kHz	32.53	L1	-13.46
1	Quasi Peak	4.065 MHz	30.23	N	-25.76
1	Quasi Peak	4.8345 MHz	28.17	N	-27.82
2	CISPR Average	12.669 MHz	32.13	N	-17.86

160100382HKG-001 (Color Cycle)

Date: 14.OCT.2016 10:13:57

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Labelling Information

The following labels is stuck on the back of the EUT. It has been verified that the label complied with the Labelling Requirement pursuant to Section 15.19 of 47 CFR Part 15.

Labelling Requirement Checklist:

	Items
1.	Trade name & model
2.	FCC logo

Label Artwork:



Trade Name, Model Number, and FCC Logo

Label Size: (L)10*(W)3.3mm



Label Location

Intertek Testing Services Hong Kong Ltd.
2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.
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Compliance Information

The following information is shown in the user's manual.

1. Model Number: Blink(1) mk2

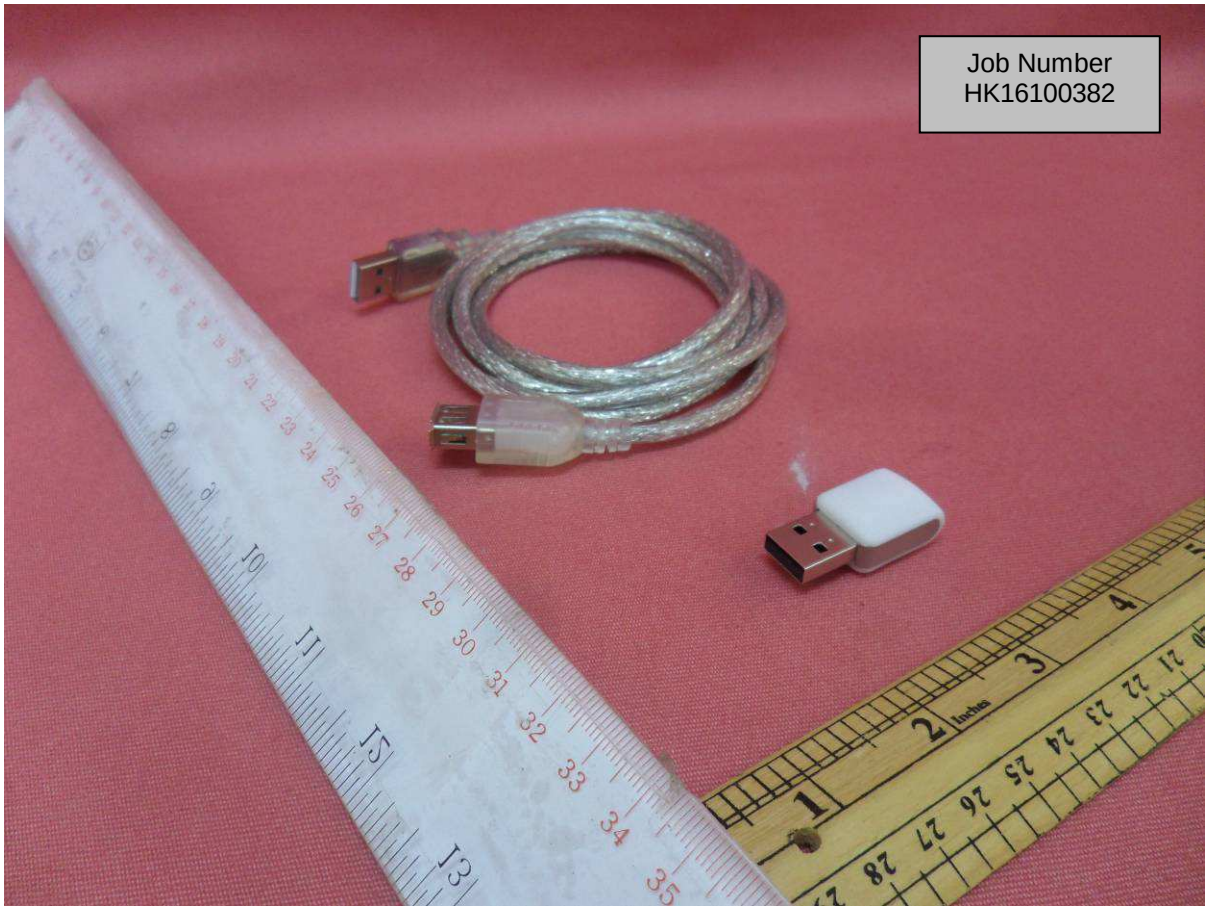
2. Compliance Statement: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
   (1) this device may not cause harmful interference, and
   (2) this device must accept any interference received, including interference that may cause undesired operation.

3. Correspondence of the responsible party in USA:
   ThingM Corporation
   1126 Palm Terrace,
   Pasadena, CA 91104,
   USA.
   Tel.: +1 (626) 398-0767
   Fax: +1 (626) 398-0767

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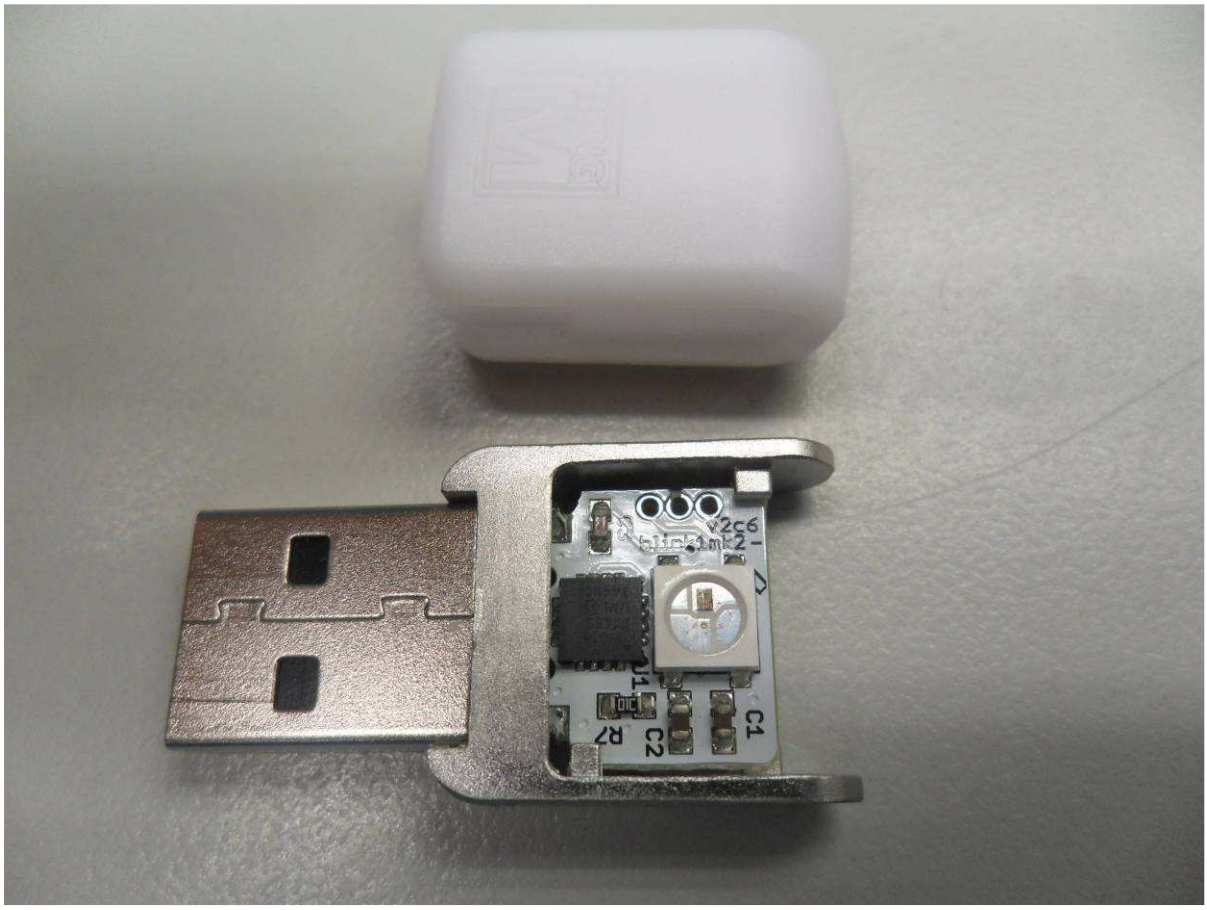
Appendix: EUT Photos

External Photo



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Internal Photo



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Exhibit 4 : User Manual

blink(1) mk2 is the world's best indicator light, designed in the spirit of our favorite old school Unix tools: simple, flexible, and robust.

Plug blink(1) into a USB port on nearly any device and turn cloud data sources or events on your computer as full-color RGB light.

BLINK(1) mk2 CAN
- act as a "busy" light for your cubicle
- pulse when someone mentions you on Twitter
- show the status of your continuous integration build
- show you if a package has shipped
- remind you to go outside and watch the sunset

...and hundreds of other things!

BLINK(1) IS A CHANNEL ON IFTTT
- IFTTT is a great & free way to connect to the cloud services together
- Use blink(1) to visual events from Facebook, Pinterest, email, more
- For more info see http://ifttt.com/blink1

GETTING STARTED WITH BLINK(1) mk2
- Plug blink(1) into an unused USB port
- Visit http://blink1.thingm.com to download the Blink1Control app for your OS
- Unzip download, install, and launch the Blink1Control app
- Create color patterns, set up alerts, connect to IFTTT

DISCLAIMER

Responsible Party in USA -
Legal Company Name: ThingM Corporation
Address: 1126 Palm Terrace, Pasadena, CA 91104
Phone, Fax: +1 (626) 398-0767
Contact Person: Tod E. Kurt

Shielded cables must be used with this unit to ensure compliance with the Class B FCC limits.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

反面

折线 不需要印刷