China

FCC - TEST REPORT

Report Number	:	**60.792.17.006.01A**	Date of Issue	:	April 6, 2017
Model	:	**HG02132A-US-TX, HG02132B-US-TX**			
Product Type	:	**Temperature Station LCD**			
Applicant	:	Lidl US Trading, LLC			
Address	:	3500 S. Clark Street, Arlington, Virginia, United States			
Production Facility	:	DIGI MAX TECHNOLOGY LIMITED			
Address	:	Room 708, Building 3, Xinyuan B area, Jinshan Industrial District, Fuzhou, China			
Test Result	:	■**Positive** ☐**Negative**			
Total pages including Appendices	:	21			

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1 Table of Contents

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2 Description of Equipment Under Test

Description of the Equipment Under Test

Product:	Temperature Station LCD
Model no.:	HG02132A-US-TX, HG02132B-US-TX
FCC ID:	2AJ9O-HG2132TX
Rating:	3.0VDC (2 x 1.5VDC size “AA“ batteries)
Frequency:	433.92MHz
Antenna gain:	0 dBi

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3 Summary of Test Standards

Test Standards
FCC Part 15 Subpart C 10-1-15 Edition Federal Communications Commission, PART 15 — Radio Frequency Devices, Subpart C — Unintentional Radiators

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4 Details about the Test Laboratory

Site 1

Company name: TÜV SÜD Hong Kong Ltd.
3/F, West Wing, Lakeside 2,
10 Science Park West Avenue,
Science Park, Shatin, Hong Kong

Site 2

Company name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shenzhen Branch
Building 12&13 Zhiheng Wisdomland Business Park,
Nantou Checkpoint Road 2,
Shenzhen 518052, P.R.China
FCC Registration Number: 502708

Emission Tests	
Test Item	Test Site
FCC Part 15 Subpart C	
FCC Title 47 Part 15.209 & 15.231(e) Spurious Radiated Emission	Site 2
FCC Title 47 Part 15.207 Conduct Emission	N/A
FCC Title 47 Part 15.231(c) Occupied Bandwidth	Site 2
FCC Title 47 Part 15.231(e) Transmission Time	Site 2
FCC Title 47 Part 15.203 Antenna Requirement	Site 2

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4.1 Test Equipment Site List

Site 2

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	101269	15-July-17
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	707	15-July-17
Horn Antenna	Rohde & Schwarz	HF907	102294	15-July-17
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	15-July-17
3m Semi-anechoic chamber	TDK	9X6X6	----	29-May-19

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4.2 Measurement System Uncertainty

Measurement System Uncertainty Emissions

System Measurement Uncertainty	
Items	**Extended Uncertainty**
Uncertainty for Radiated Emission in 3m chamber 9kHz-30MHz	4.54dB
Uncertainty for Radiated Emission in 3m chamber 30MHz-1000MHz	Horizontal: 4.83dB; Vertical: 4.91dB;
Uncertainty for Radiated Emission in 3m chamber 1000MHz-25000MHz	Horizontal: 4.89dB; Vertical: 4.88dB;
Uncertainty for Conducted RF test	2.04dB

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5 Summary of Test Results

Emission Tests				
FCC Part 15 Subpart C				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
FCC Title 47 Part 15.209 & 15.231(e) Spurious Radiated Emission	10-11	☒	☐	☐
FCC Title 47 Part 15.207 Conduct Emission	N/A	☐	☐	☒
FCC Title 47 Part 15.231(c) 20dB Bandwidth	12	☒	☐	☐
FCC Title 47 Part 15.231(e) Transmission Time	13-14	☒	☐	☐
FCC Title 47 Part 15.203 Antenna Requirement	15	☒	☐	☐

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6 General Remarks

Remarks

Client informs that the HG02132A-US-TX have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction, with Temperature Station LCD, HG02132B-US-TX. The difference lies only on different color of the different models. (Client's conformation letter shown at appendix C)

EMC Tests were performed on model: HG02132B-US-TX.

SUMMARY:

- All tests according to the regulations cited on page 5 were

  ■ - Performed

  ☐ - **Not** Performed

- The Equipment Under Test

  ■ - **Fulfills** the general approval requirements.

  ☐ - **Does not** fulfill the general approval requirements.

Sample Received Date: February 7, 2017

Testing Start Date: February 8, 2017

Testing End Date: March 15, 2017

- TÜV SÜD HONG KONG LTD. -

Reviewed by: Prepared by:

TSENG Chi Kit	CHAN Kwan Ho Alex
EMC Project Engineer	EMC Project Engineer

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7 Emission Test Results

7.1 Spurious Radiated Emission

EUT: HG02132B-US-TX
Op Condition: Operated, TX Mode
Test Specification: FCC15.209 & 15.231(e) Antenna: Horizontal
Comment: 3.0VDC
Remark: 9kHz to 6GHz

Test Result
☒ Passed
☐ Not Passed

Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector
216.940	18.25	46.0	-27.75	Quasi Peak
325.418	24.20	46.0	-21.80	Quasi Peak
433.920	50.00	92.9	-42.90	Peak
433.920	38.15	72.9	-34.75	Average
868.080	37.60	72.9	-35.30	Peak
868.080	33.41	52.9	-19.49	Average
1735.468	51.73	74.0	-22.27	Peak
1735.468	39.54	54.0	-14.46	Average
2169.375	42.59	74.0	-31.41	Peak
2169.375	31.08	54.0	-22.92	Average
2603.281	39.36	74.0	-34.64	Peak
2603.281	27.92	54.0	-26.08	Average

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Spurious Radiated Emission

EUT: HG02132B-US-TX
Op Condition: Operated, TX Mode
Test Specification: FCC15.209 & 15.231(e) Antenna: Vertical
Comment: 3.0VDC
Remark: 9kHz to 6GHz

Test Result
☒ Passed
☐ Not Passed

Frequency MHz	Result dBµV/m	Limit dBµV/m	Margin dB	Detector
216.941	33.62	46.0	-12.38	Quasi Peak
325.419	42.24	46.0	-3.76	Quasi Peak
433.920	72.64	92.9	-20.26	Peak
433.920	60.07	72.9	-12.83	Average
867.756	45.29	72.9	-27.61	Peak
867.756	34.75	52.9	-18.15	Average
1301.562	46.09	74.0	-27.91	Peak
1301.562	35.71	54.0	-18.29	Average
1735.468	58.26	74.0	-15.74	Peak
1735.468	48.84	54.0	-5.16	Average
2169.375	45.64	74.0	-28.36	Peak
2169.375	44.97	54.0	-9.03	Average

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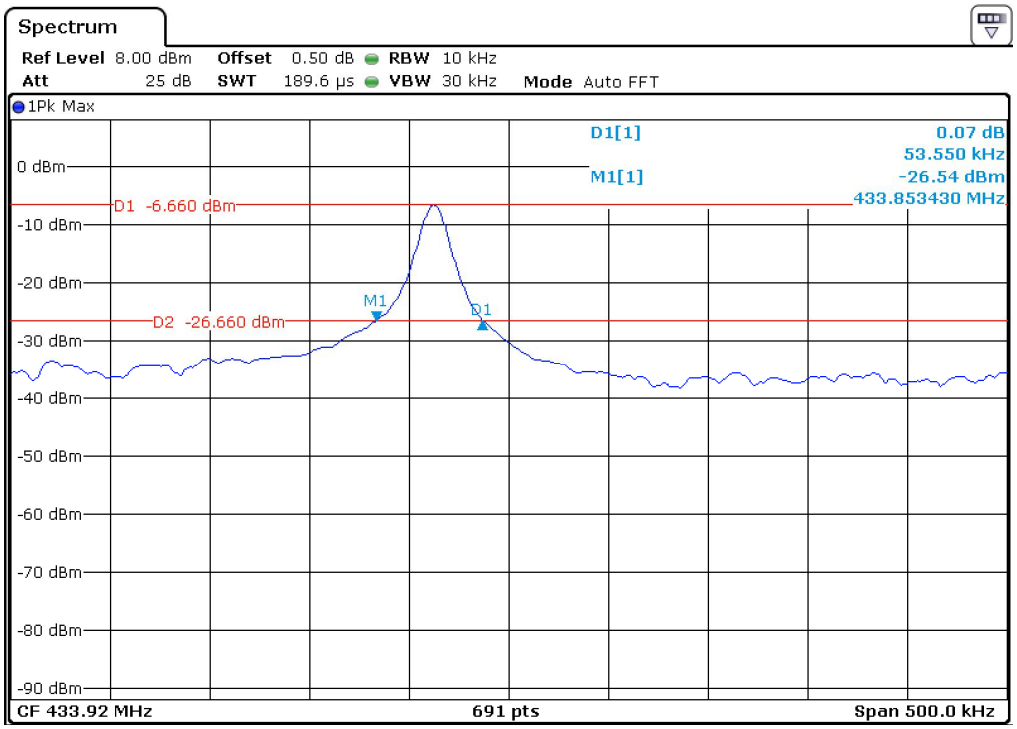
7.2 20dB Bandwidth

EUT: HG02132B-US-TX
Op Condition: Operated, TX Mode
Test Specification: FCC15.231(c) 20dB Bandwidth
Comment: 3.0VDC

Test Result
☒ Passed
☐ Not Passed



20dB bandwidth	Limit
53.550 kHz	1084.8kHz

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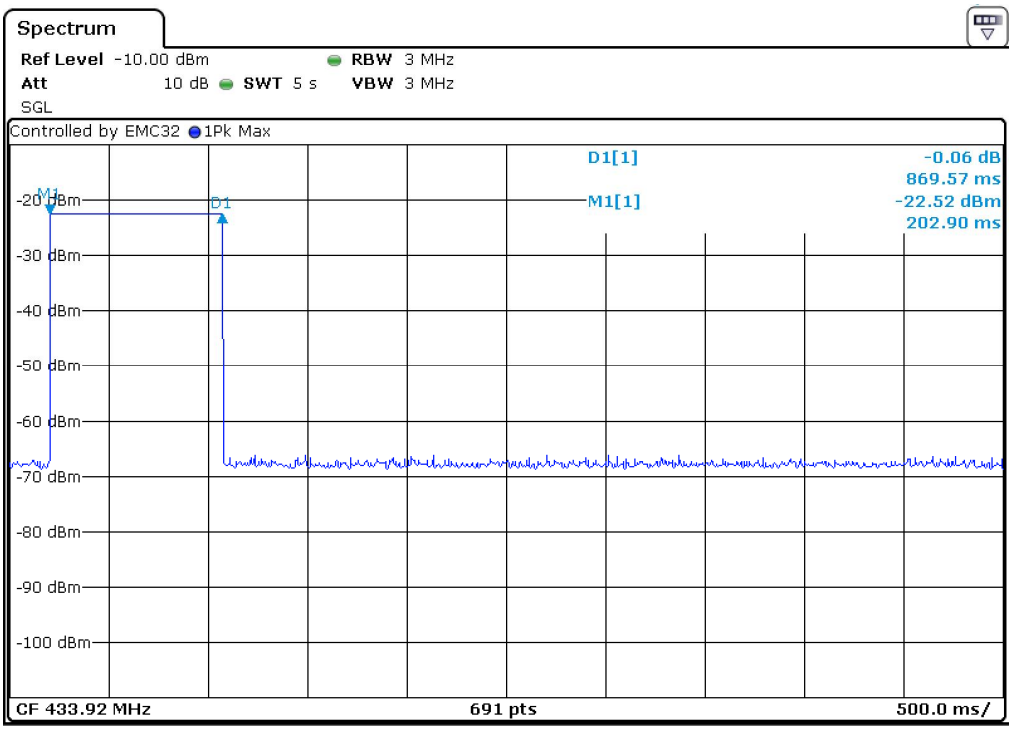
7.3 Transmission Time

EUT: HG02132B-US-TX
Op Condition: Operated, TX Mode
Test Specification: FCC15.231(e) Transmission Time
Comment: 3.0VDC

Test Result
☒ Passed
☐ Not Passed



The duration of each transmission	Limit
869.57 ms	1000 ms

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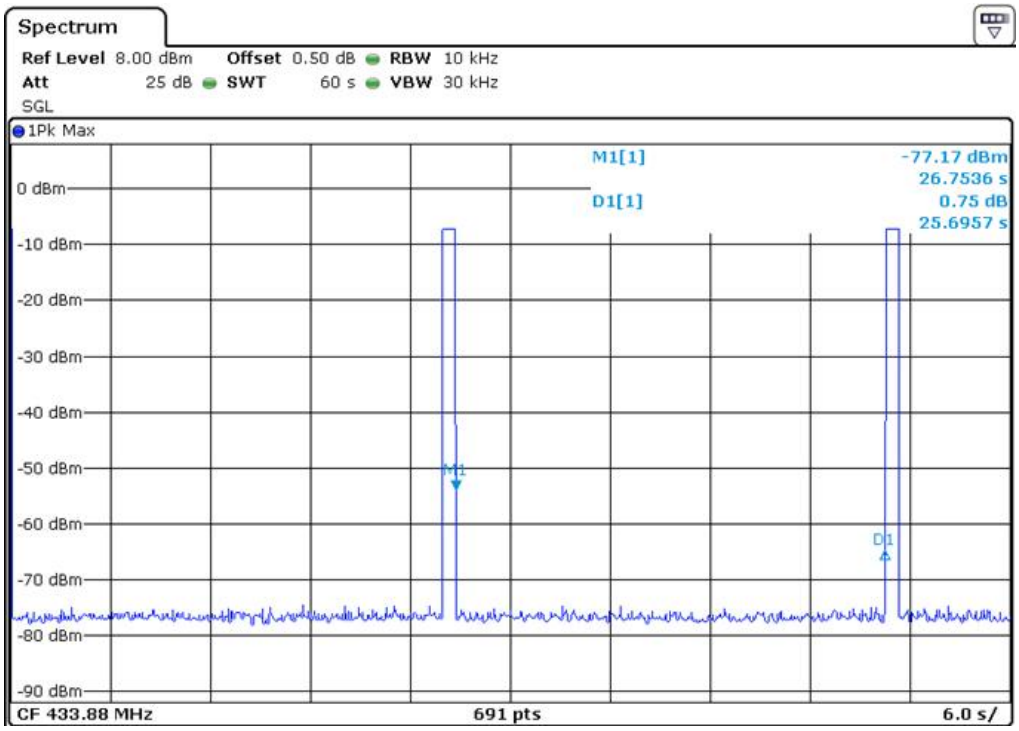
Transmission Time

EUT: HG02132B-US-TX
Op Condition: Operated, TX Mode
Test Specification: FCC15.231(e) Transmission Time
Comment: 3.0VDC

Test Result
☒ Passed
☐ Not Passed



The duration of each transmission	Silent duration between transmissions	Result
869.57 ms	25.695 s	869.57 ms * 30 = 26.087 s

Comment: The silent period between transmissions was found at least 30 times the duration of the transmission and no case less than 10 seconds.

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7.4 Antenna Requirement

EUT:	HG02132B-US-TX
Op Condition:	Operated, TX Mode
Test Specification:	FCC15.203
Comment:	3.0VDC

Test Result
☒ Passed
☐ Not Passed

Limit

For intentional device, according to FCC Title 47 Part 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.

Antenna Connector Construction

The antenna used in this product is PCB antenna, and the maximum gain of this antenna is 0.0 dBi.

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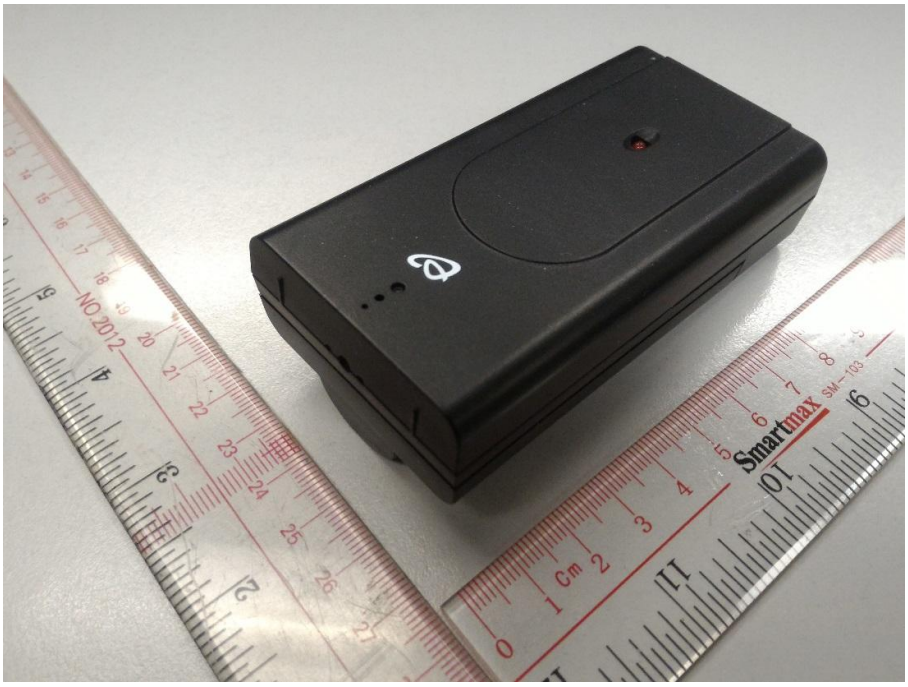
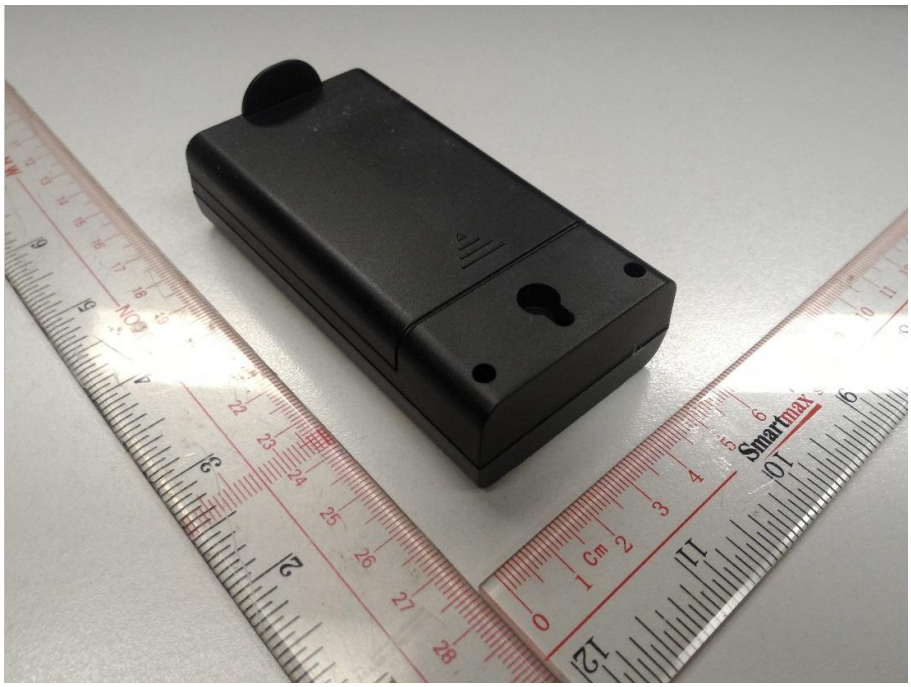
8 Appendix A - Photographs of EUT





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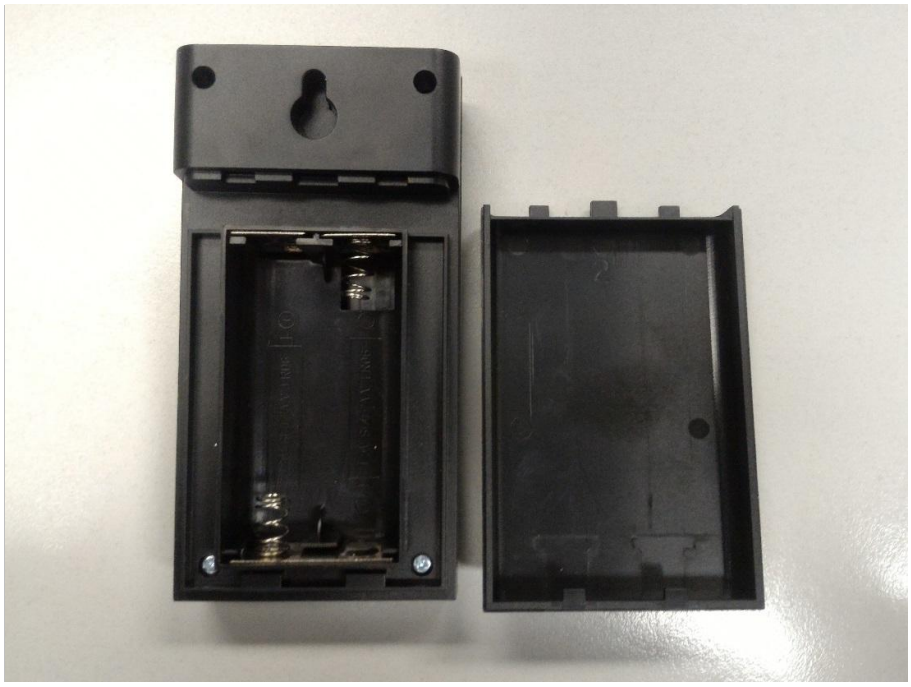
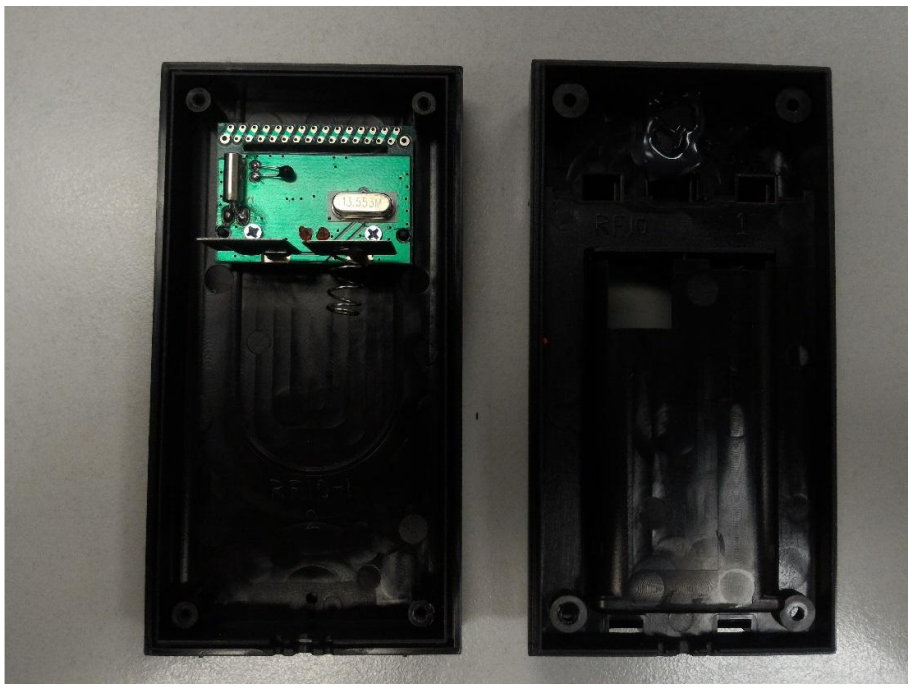
Appendix A





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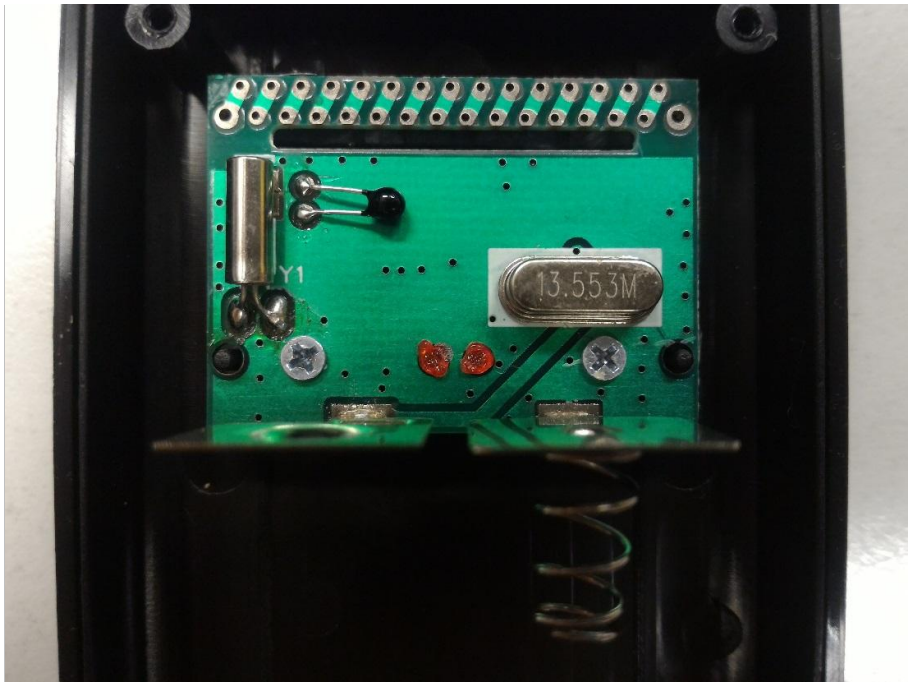
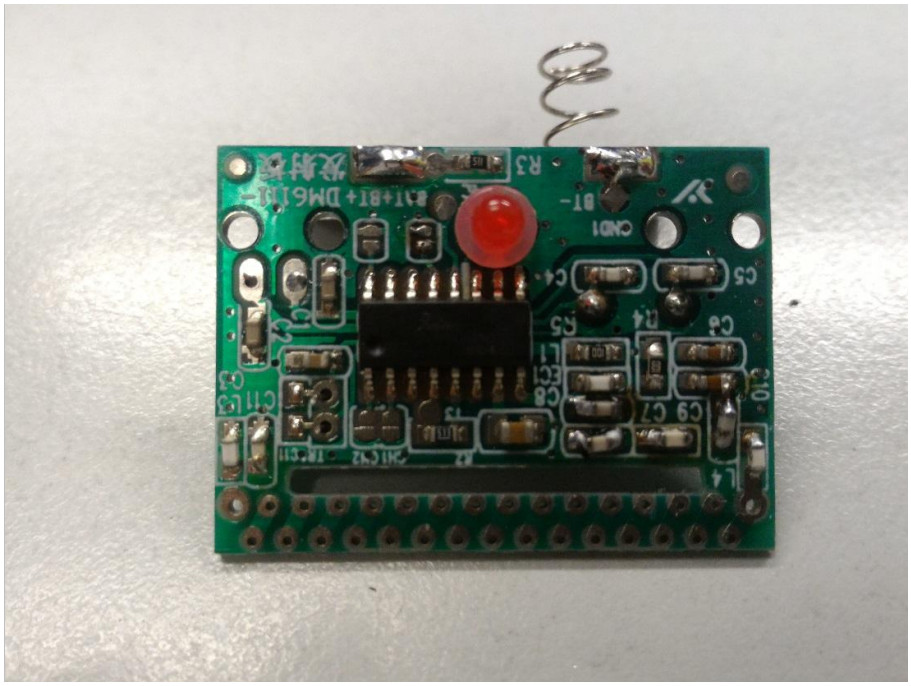
Appendix A





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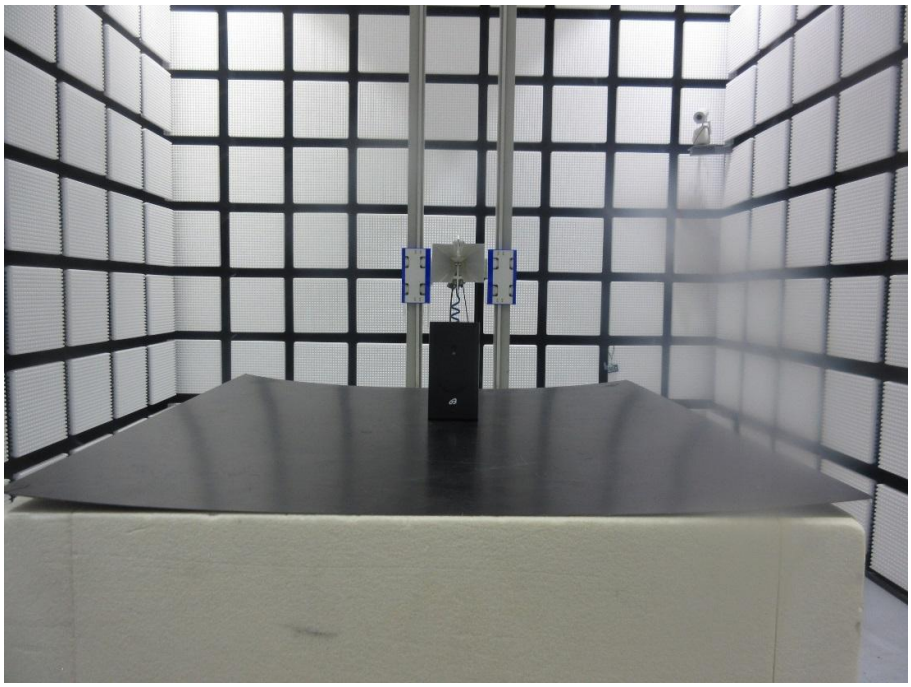
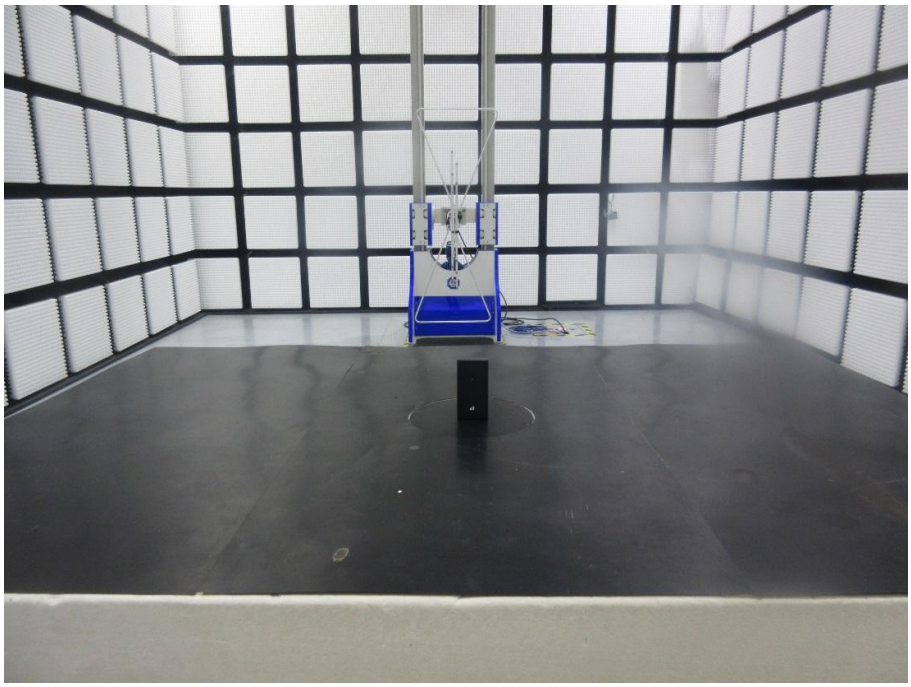
9 Appendix B - Setup Photographs of EUT





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10 Appendix C - General Product Information

Radiofrequency radiation exposure evaluation

According to KDB 447498 D01v06 section 4.3.1, For frequencies between 100 MHz to 6GHz and test separation distances ≤ 50 mm, the Numeric threshold is determined as:

Step a)
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR

>> The fundamental frequency of the EUT is 433.92MHz, the test separation distance is ≤ 50mm.
(Manufacturer specified the separation distance is: 20mm)

Step a)
>> Numeric threshold, mW / 20mm * √0.43392GHz ≤ 3.0
Numeric threshold ≤ 91.084mW

>> The power of EUT measured is: -24.74dBm = 0.00336mW
Which is smaller than the Numeric threshold.
Therefore, the device is exempt from stand-alone SAR test requirements.

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Appendix C

LIDL US LLC. 3500 S Clark Street, Arlington, VA 22202

To: TÜV SÜD HKG Ltd.

Attention: **Mr. Edmond Fung**
From: **Mr. David Matter** Date: April 5, 2017
Fax No: Total Page (Cover Included): 1

Declaration Letter

Subject: Declaration Letter for Model Number

We:

Officially notify TÜV SÜD HKG Ltd. that the <<Additional Model>> have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction, with <<PRODUCT>>, <<Main Test Model>>.
The difference lies only on different color of the different models.

<<Additional Model >>: HGO2132B-US-RX, HGO2132A-US-TX

<<Main Test Model >>: HGO2132A-US-RX, HGO2132B-US-TX

<<Product>>: Temperature Station LCD

Applicant:

April 5, 2017
(Date)

Matter
Digitally signed by Matter
DN: cn=Matter, o=LIDL, ou=LLC, email=david.matter@lidl.us, c=US
Date: 2017.04.05 19:19:42 -04'00'
(Applicant's authorized signature and company Chop)

file: declaration letter-template

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