

FCC - TEST REPORT

Report Number : **60.792.19.006.01E01** Date of Issue : October 15, 2019

Model : **HG05686A-US-RX, HG05686B-US-RX**

Product Type : **Temperature station LCD USA, 2 assorted**

Applicant : Lidl US, LLC

Address : 3500 South Clark Street, Arlington, VA 22202, USA

Production Facility : AOK Electronic Limited

Address : Tianxin Ind. District, Dahou, Xiegang, Dongguan, Guangdong, China

Test Result : ☒ **Positive** ☐ **Negative**

Total pages including Appendices : 16

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2 Description of the Equipment Under Test

Description of the Equipment Under Test

Product: Temperature station LCD USA, 2 assorted

Model no.: HG05686A-US-RX, HG05686B-US-RX

FCC ID: 2AJ9O-HG5686RX

Rating 3 VDC (2 x 1.5 V AAA battery)

Remark: 433.92MHz (Rx)

Auxiliary Equipment Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
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3 Summary of Test Standards

Test Standards

FCC Part 15 Subpart B 10-1-18 Edition Federal Communications Commission, PART 15 — Radio Frequency Devices, Subpart B — Unintentional Radiators

All the tests were performed using the procedures from ANSI C63.4(2014).

4 Details about the Test Laboratory

Site 1

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: 514049

Emission Tests	
Test Item	Test Site
FCC Part 15 Subpart B	
FCC Title 47 Part 15.109 Radiated Emission	Site1
FCC Title 47 Part 15.107 Conduct Emission	NIL

4.1 Test Equipment Site List

Radiated emission Test – Site 1

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 26	101269	2020-6-28
Signal Analyzer	Rohde & Schwarz	FSV40	101031	2020-6-28
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100398	2020-7-7
Trilog Super Broadband Test Antenna	Schwarzbeck	VULB 9163	707	2020-7-5
Horn Antenna	Rohde & Schwarz	HF907	102294	2020-6-22
Wideband Horn Antenna	Q-PAR	QWH-SL-18-40-K-SG	12827	2020-7-5
Pre-amplifier	Rohde & Schwarz	SCU 18	102230	2020-6-28
Pre-amplifier	Rohde & Schwarz	SCU 40A	100432	2020-6-28
Attenuator	Agilent	8491A	MY39264334	2020-6-28
3m Semi-anechoic chamber	TDK	9X6X6	----	2020-7-7
Test software	Rohde & Schwarz	EMC32	Version 9.15.00	N/A

Conducted Emission Test – Site 1

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESR 3	101782	2020-6-28
LISN	Rohde & Schwarz	ENV4200	100249	2020-6-28
LISN	Rohde & Schwarz	ENV432	101318	2020-7-19
LISN	Rohde & Schwarz	ENV216	100326	2020-6-28
ISN	Rohde & Schwarz	ENY81	100177	2020-6-28
ISN	Rohde & Schwarz	ENY81-CA6	101664	2020-6-28
High Voltage Probe	Rohde & Schwarz	TK9420(VT9420)	9420-584	2020-6-24
RF Current Probe	Rohde & Schwarz	EZ-17	100816	2020-7-2
Attenuator	Shanghai Huaxiang	TS2-26-3	080928189	2020-6-28
Test software	Rohde & Schwarz	EMC32	Version9.15.00	N/A

4.2 Measurement System Uncertainty

Measurement System Uncertainty Emissions

System Measurement Uncertainty	
Items	Extended Uncertainty
Uncertainty for Radiated Emission in 3m chamber 9kHz-30MHz	4.46dB
Uncertainty for Radiated Emission in 3m chamber 30MHz-1000MHz	Horizontal: 4.91dB; Vertical: 4.89dB;
Uncertainty for Radiated Emission in 3m chamber 1000MHz-25000MHz	Horizontal: 4.80dB; Vertical: 4.79dB;
Uncertainty for Conducted RF test	2.13dB

5 Summary of Test Results

Emission Tests				
FCC Part 15 Subpart B				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
FCC Title 47 Part 15.109 Radiated Emission 30MHz-1000MHz	12-15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FCC Title 47 Part 15.107 Conduct Emission 150kHz-30MHz (1)	NIL	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Remark:

1) Conducted Emission testing is not applicable for battery operating device.

6 General Remarks

Remarks

Client informs that the **HG05686B-US-RX** have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction with **Temperature station LCD USA, 2 assorted, HG05686A-US-RX**. The difference lies only in the outlook/color of the different models. (Client's conformation letter shown at appendix A).

EMC Tests were performed on model: **HG05686A-US-RX**.

This submittal(s) (test report) is intended for **FCC ID: 2AJ90-HG5686RX**, complies with Section 15.107, 15.109 of the FCC Part 15, Subpart B rules.

SUMMARY:

- All tests according to the regulations cited on page 6 were

■ - Performed

□ - **Not** Performed

- The Equipment Under Test

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

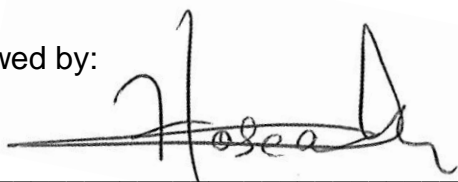
□ - **Does not** fulfill the general approval requirements.

Sample Received Date: September 4, 2019

Testing Start Date: September 7, 2019

Testing End Date: September 14, 2019

Reviewed by:



Hosea CHAN
EMC Project Engineer

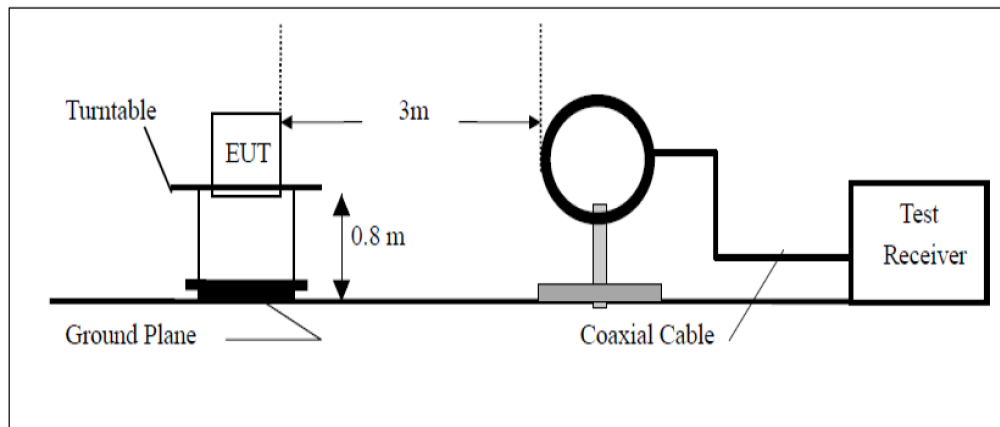
Prepared by:



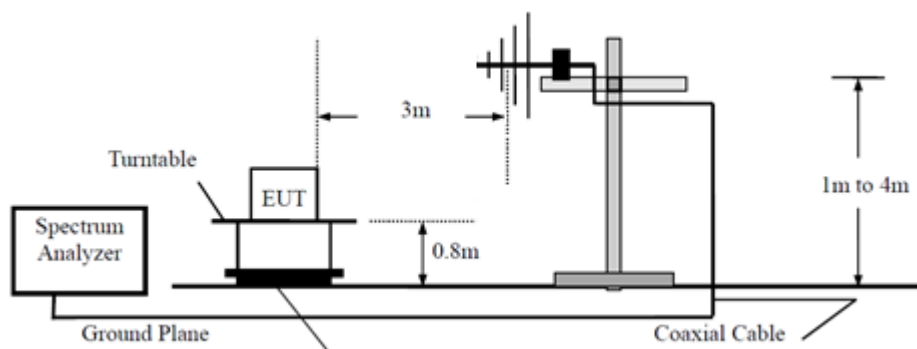
Eric LI
EMC Senior Project Engineer

7 Test Setups

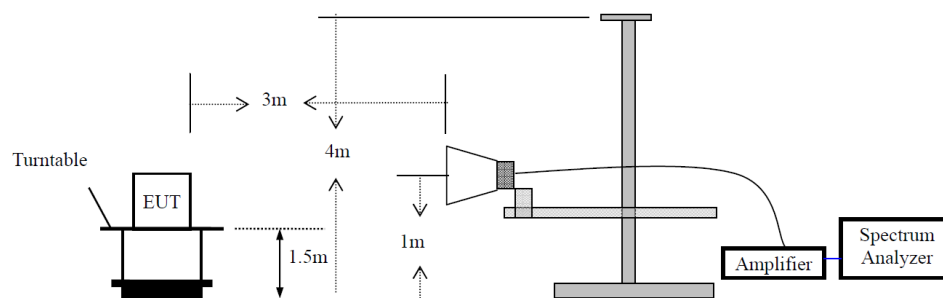
7.1 Radiated test setups 9kHz-30MHz



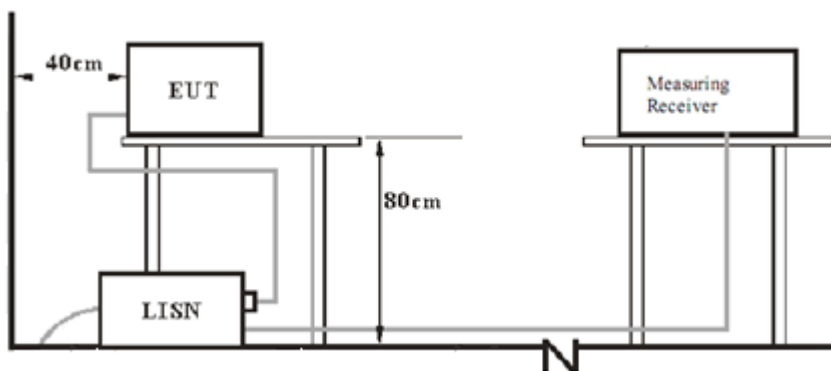
7.2 Radiated test setups Below 1GHz



7.3 Radiated test setups Above 1GHz



7.4 AC Power Line Conducted Emission test setups



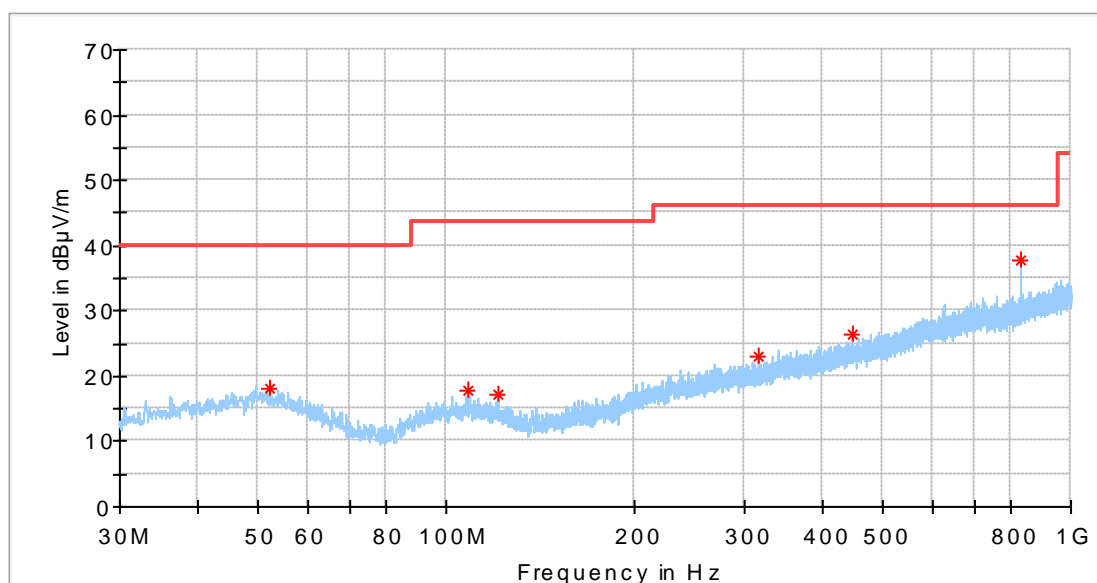
8 Emission Test Results

8.1 Radiated Emission

EUT: HG05686A-US-RX
 Op Condition: 433MHz Rx mode
 Test Specification: FCC 15.109
 Comment: 3V DC, 30MHz-1GHz, Antenna: Horizontal

Test Result

☒ Passed

☐ Not Passed


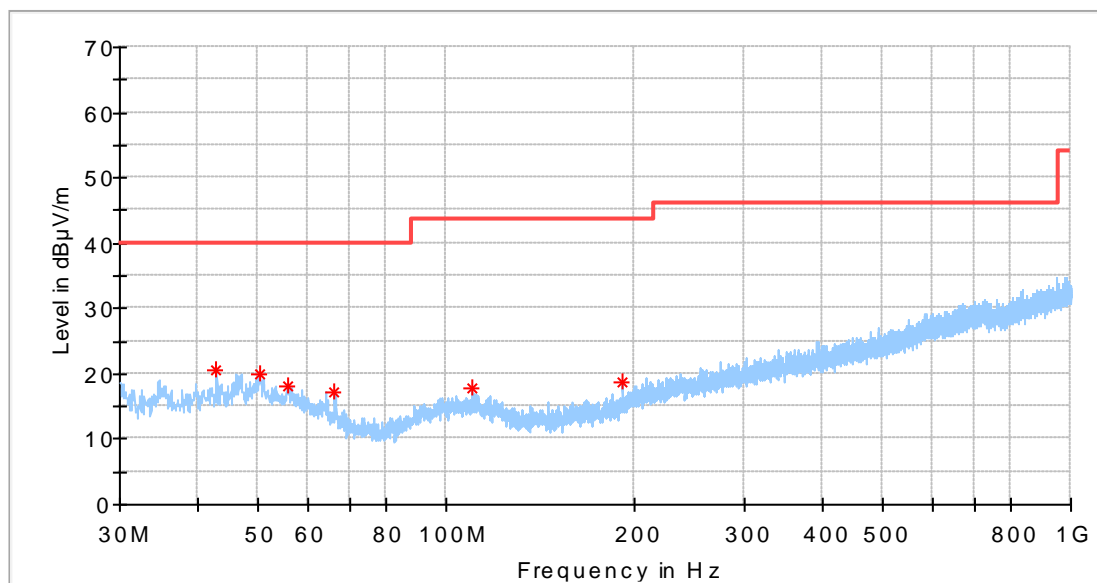
Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Corr. (dB)
52.006875	18.26	40.00	-21.74	17.8
108.206250	17.66	43.50	-25.84	15.6
120.937500	17.32	43.50	-26.18	14.9
316.635000	23.06	46.00	-22.94	20.4
447.948750	26.38	46.00	-19.62	23.1
830.310625	37.75	46.00	-8.25	28.8

Radiated Emission

EUT: HG05686A-US-RX
 Op Condition: 433MHz Rx mode
 Test Specification: FCC 15.109
 Comment: 3V DC, 30MHz-1GHz, Antenna: Vertical

Test Result

☒ Passed
☐ Not Passed



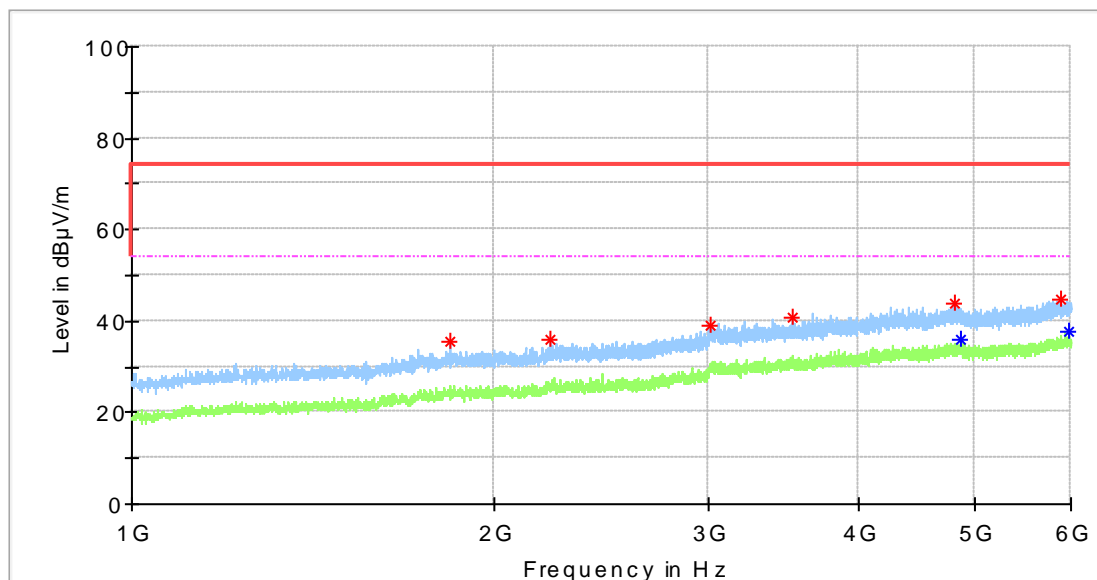
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Corr. (dB)
42.913125	20.55	40.00	-19.45	16.8
50.248750	20.00	40.00	-20.00	18.2
55.583750	18.24	40.00	-21.76	17.0
66.314375	17.08	40.00	-22.92	13.6
110.267500	17.72	43.50	-25.78	15.5
191.990000	18.80	43.50	-24.70	15.4

Radiated Emission

EUT: HG05686A-US-RX
 Op Condition: 433MHz Rx mode
 Test Specification: FCC 15.109
 Comment: 3V DC, 1-6GHz, Antenna: Horizontal

Test Result

☒ Passed

☐ Not Passed


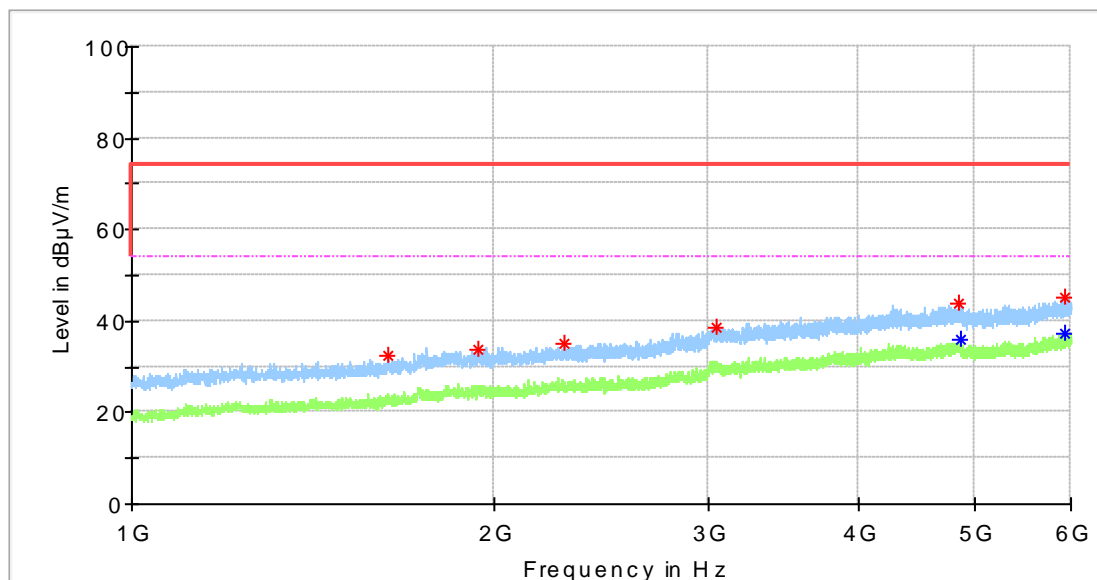
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Corr. (dB)
1838.000000	35.58	---	74.00	-38.42	-9.6
2223.000000	35.79	---	74.00	-38.21	-8.5
3014.000000	39.03	---	74.00	-34.97	-4.1
3532.500000	40.87	---	74.00	-33.13	-2.6
4809.000000	43.73	---	74.00	-30.27	0.3
4861.500000	---	35.77	54.00	-18.23	0.5
5883.500000	44.63	---	74.00	-29.37	1.9
5986.500000	---	37.93	54.00	-16.07	2.1

Radiated Emission

EUT: HG05686A-US-RX
 Op Condition: 433MHz Rx mode
 Test Specification: FCC 15.109
 Comment: 3V DC, 1-6GHz, Antenna: Vertical

Test Result

☒ Passed

☐ Not Passed


Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Corr. (dB)
1633.000000	32.34	---	74.00	-41.66	-11.5
1934.000000	33.67	---	74.00	-40.33	-9.3
2283.000000	35.24	---	74.00	-38.76	-8.2
3048.000000	38.59	---	74.00	-35.41	-3.8
4843.500000	43.90	---	74.00	-30.10	0.5
4864.500000	---	35.92	54.00	-18.08	0.6
5934.000000	45.15	---	74.00	-28.85	2.0
5939.500000	---	37.30	54.00	-16.70	2.0

9 Appendix A - General Product Information

Declaration letter of model difference

Lidl US LLC.

To: TÜV SÜD Hong Kong Limited

Attention: Edmond Fung

From:

Date: October 11, 2019

Fax No:

Total Page (Cover Included): 1

Project No.:

Subject: **Declaration letter**

We: **Company Name:** Lidl US LLC.

Address: 3500 S. Clark Street, Arlington, Virginia, United States.

Officially notify TÜV SÜV Hong Kong Limited that the <<Model A>> have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction, with <<PRODUCT>>, <<Model B>>. The difference lies only in the outlook/color of the different models.

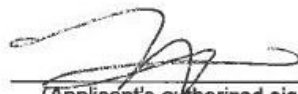
<<Model A>>: HG05686A-US-TX, HG05686A-US-RX

<<Model B>>: HG05686B-US-TX, HG05686B-US-RX

<<Product>>: Temperature station LCD USA, 2 assorted

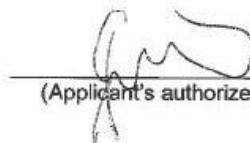
Applicant: Lidl US LLC.

10/11/2019
(Date)



(Applicant's authorized signature and company Chop)

10/11/2019
(Date)



(Applicant's authorized signature and company Chop)