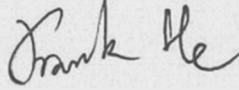
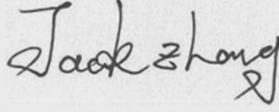




Test report No:  
2040637R-RF-US-P20V01

## FCC Exposure Evaluation Declaration Test Report

|   |   |
|---|---|
| Product Name                              | Tunable White Direct Connect Smart Bulb   |
| Trademark                                 | GE  |
| Model and /or type reference              | CLEDR309SD1   |
| FCC ID                                    | PUU-BR30-DMTW   |
| Applicant's name / address                | GE Lighting<br>1975 Noble Road, Cleveland, Ohio, United States  |
| Test method requested, standard           | KDB 447498D01V06<br>FCC Part1.1310  |
| Verdict Summary                           | IN COMPLIANCE   |
| Documented By                             | Kitty Li/Project Assistant<br>     |
| Reviewed by (name / position & signature) | Frank He/ Technical Supervisor<br> |
| Approved by (name / position & signature) | Jack Zhang/ Supervisor<br>        |
| Date of issue                             | 2020-07-02  |
| Report template No                        | 2040637R-RF-US-P20V01   |

## INDEX

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|   | <b>page</b> |
|---|-------------|
| Competences and Guarantees.....                 | 3           |
| General conditions.....                         | 3           |
| Environmental conditions.....                   | 3           |
| Possible test case verdicts .....               | 4           |
| Abbreviations .....                             | 4           |
| Document History .....                          | 5           |
| Remarks and Comments .....                      | 5           |
| 1. RF Exposure Evaluation .....                 | 6           |
| 1.1. Limits .....                               | 6           |
| 1.2. Test Procedure .....                       | 7           |
| 1.3. Test Result of RF Exposure Evaluation..... | 7           |

## COMPETENCES AND GUARANTEES

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DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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## GENERAL CONDITIONS

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1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

## ENVIRONMENTAL CONDITIONS

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The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

|                       |               |
|-----------------------|---------------|
| Ambient temperature   | 15 °C – 35 °C |
| Relative Humidity air | 30% - 60%     |

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

## POSSIBLE TEST CASE VERDICTS

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|   |                 |
|---|-----------------|
| Test case does not apply to test object | N/A             |
| Test object does meet requirement       | P (Pass) / PASS |
| Test object does not meet requirement   | F (Fail) / FAIL |
| Not measured                            | N/M             |

## ABBREVIATIONS

---

For the purposes of the present document, the following abbreviations apply:

|       |                               |
|-------|-------------------------------|
| EUT   | : Equipment Under Test        |
| QP    | : Quasi-Peak                  |
| CAV   | : CISPR Average               |
| AV    | : Average                     |
| CDN   | : Coupling Decoupling Network |
| SAC   | : Semi-Anechoic Chamber       |
| OATS  | : Open Area Test Site         |
| BW    | : Bandwidth                   |
| AM    | : Amplitude Modulation        |
| PM    | : Pulse Modulation            |
| HCP   | : Horizontal Coupling Plane   |
| VCP   | : Vertical Coupling Plane     |
| $U_N$ | : Nominal voltage             |
| Tx    | : Transmitter                 |
| Rx    | : Receiver                    |
| N/A   | : Not Applicable              |
| N/M   | : Not Measured                |

## DOCUMENT HISTORY

| Report No.            | Version | Description                          | Issued Date |
|-----------------------|---------|--------------------------------------|-------------|
| 2040637R-RF-US-P20V01 | V1.0    | Initial issue of report.             | 2020-06-10  |
| 2040637R-RF-US-P20V01 | V1.1    | Updated RF Exposure Evaluation data. | 2020-06-23  |
| 2040637R-RF-US-P20V01 | V1.2    | Update some descriptions.            | 2020-07-02  |
|                       |         |                                      |             |
|                       |         |                                      |             |
|                       |         |                                      |             |
|                       |         |                                      |             |
|                       |         |                                      |             |
|                       |         |                                      |             |
|                       |         |                                      |             |

## REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with KDB 447498 and FCC Part 1.1310
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result, unless the specification, standard or customer have special requirements
4. The test results relate only to the samples tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.

## 1. RF Exposure Evaluation

### 1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

#### LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

| Frequency Range (MHz)                                     | Electric Field Strength (V/m) | Magnetic Field Strength (A/m) | Power Density (mW/cm <sup>2</sup> ) | Average Time (Minutes) |
|---|-------------------------------|-------------------------------|-------------------------------------|------------------------|
| (A) Limits for Occupational/ Control Exposures            |                               |                               |                                     |                        |
| 300-1500  | --                            | --                            | F/300                               | 6                      |
| 1500-100,000  | --                            | --                            | 5                                   | 6                      |
| (B) Limits for General Population/ Uncontrolled Exposures |                               |                               |                                     |                        |
| 300-1500  | --                            | --                            | F/1500                              | 6                      |
| 1500-100,000  | --                            | --                            | 1                                   | 30                     |

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

R = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

## 1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

## 1.3. Test Result of RF Exposure Evaluation

|           |   |   |
|-----------|---|---|
| Product   | : | Tunable White Direct Connect Smart Bulb |
| Test Item | : | RF Exposure Evaluation                  |
| Test Site | : | AC-6                                    |

### Power Density

| Test Mode | EIRP (dBm) | Power Density at R =<br>20 cm<br>(mW/cm <sup>2</sup> ) | Power Density Limit<br>(mW/cm <sup>2</sup> ) |
|-----------|------------|--|--|
| WIFI 2.4G | 27.23      | 0.1051   | 1  |
| BLE 2.4G  | 11.71      | 0.00295  | 1  |

| Wireless Configure | Frequency Range (MHz) | Maximum EIRP (dBm) |       | Limit of Power Density S(mW/cm <sup>2</sup> ) | Power Density Ratio |         | Total Rate | Limit |
|--------------------|-----------------------|--------------------|-------|---|---------------------|---------|------------|-------|
|                    |                       | WiFi2.4G           | BLE   |   | WiFi2.4G            | BLE     |            |       |
| WiFi2.4G + BLE2.4G | 2.4G+2.4G             | 27.23              | 11.71 | 1.0   | 0.1051              | 0.00295 | 0.108      | 1     |

The safety distance is 20cm for installed for Tunable White Direct Connect Smart Bulb without any other radio equipment.

\_\_\_\_\_ The End \_\_\_\_\_