RADIO FREQUENCY EXPOSURE EVALATION

General Information

Applicant	:	Savant Technologies LLC, dba GE Lighting, a Savant company
EUT Description	:	Downlight
Model No.	:	CFIXRSR6CRVDMS@
Radio Tech	:	BLE 5.0, IEEE 802.11 b/g/n.

Description of Test Facility

Name of Firm	:	Audix Technology (Shanghai) Co., Ltd.
Site Location	:	3F, Building 34, No. 680 Guiping Rd., Caohejing, Hi-Tech Park, Shanghai 200233, China
NVLAP, Lab Code	:	200371-0
FCC Designation Number	:	CN5027
Test Firm Registration Number:		954668

Evaluation Method

KDB 447498 D04 Interim General RF Exposure Guidance v01

Applicable Standard:

KDB 447498 D04 v01:
Section 2.1.3: SAR-Based Exemption.
A more comprehensive exemption, considering a variable power threshold that depends on both the separation distance and power, is provided in §1.1307(b)(3)(i)(B). This exemption is applicable to the frequency range between 300 MHz and 6 GHz, with test separation distances between 0.5 cm and 40 cm, and for all RF sources in fixed, mobile, and portable device exposure conditions. Accordingly, a RF source is considered an RF exempt device if its available maximum time-averaged (matched conducted) power or its effective radiated power (ERP), whichever is greater, are below a specified threshold. This exemption threshold was derived based on general population 1-g SAR requirements and is detailed in Appendix C.

FCC CFR 47 §1.1307(b)(3)(i)(B):
A single RF source is exempt if the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20\,cm}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20\,cm} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\,cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\,cm} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

d = the separation distance (cm);

RF Exposure evaluation:

Mode	Frequency	Max output power		Ant. Gain	Max E.I.R.P		P_{th}
	MHz	dBm	mW	dBi	dBm	mW	mW
BLE1M	2402	5.233	3.34	0.5	5.733	3.744	3060
BLE2M	2442	5.232	3.34	0.5	5.732	3.743	3060
11b	2462	17.02	50.35	0.5	17.52	56.494	3060
11g	2462	13.83	24.15	0.5	14.33	27.102	3060
11n20	2462	14.02	25.23	0.5	14.52	28.314	3060

Note1: For this EUT, and the separation distance is <u>20 cm</u>. And the Bluetooth and WIFI can not transmit at the same time.

Note2: The Conducted output power and Maximum EIRP both no greater than the threshold P_{th}, that meets the exemption, the RF exposure evaluation is not required.

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