

IEEE C95.1**KDB 447498 D01 v06****47 C.F.R. Part 1, Subpart I, Section 1.1310****47 C.F.R. Part 2, Subpart J, Section 2.1091****RF EXPOSURE REPORT****For****Smart Home Outdoor Camera****Model : SVO-1601-220 ; SVO-1601-110****Trade Name: BOSCH****Issued for****Robert Bosch Taiwan Co., Ltd.****6F, No. 90, Jian Guo N. Road, Sec.1 Taipei 10491, Taiwan****Issued by****Compliance Certification Services Inc.****Hsinchu Lab.****NO. 989-1, Wenshan Rd., Shangshan Village,****Qionglin Township, Hsinchu County 30741, Taiwan (R.O.C.)****<http://www.ccsrf.com>****service@ccsrf.com****Issued Date: November 15, 2016**

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	11/15/2016	Initial Issue	All Page	Dola Hsieh

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1. Limit

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

2. EUT Specification

Product Name	Smart Home Outdoor Camera
Model Number	SVO-1601-220 ; SVO-1601-110
Identify Number	T160301D06
Received Date	March 01, 2016
Frequency band (Operating)	802.11b/g/gn HT20 Mode: 2412MHz ~ 2462MHz
Device category	Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure ($S = 5\text{mW}/\text{cm}^2$) ☒ General Population/Uncontrolled exposure ($S=1\text{mW}/\text{cm}^2$)
Antenna Specification	WiFi 2.4GHz Antenna, Gain: 2.41dBi
Maximum average output power	IEEE 802.11b Mode: 9.06 dBm IEEE 802.11g Mode: 15.44 dBm IEEE 802.11gn HT20 MCS0 Mode: 15.44 dBm
Evaluation applied	MPE Evaluation*

The difference of the series model

Model Number	Power Rating	Difference	
		Wall bracket	Label
SVO-1601-220	100-240Vac, 50/60Hz, 15W	NO	240Vac, 50Hz, 15W
SVO-1601-110		YES	110Vac, 60Hz, 15W

Remark:

1. For more details, please refer to the User's manual of the EUT.
2. This submittal(s) (test report) is intended for FCC ID: ZTM-SVO-1601-XX0 filing.
3. The model SVO-1601-220 was considered the main model for testing.

3. Test Results

No non-compliance noted.

Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{3770}$$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{3770 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \textbf{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

4. Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

Mode	Frequency (MHz)	Power (dBm)	Ant. Gain (dBi)	Distance (cm)	Power density (mW/cm ²)	Limit (mW/cm ²)
IEEE 802.11b	2462	9.06	2.41	20	0.0028	1
IEEE 802.11g	2437	15.44	2.41	20	0.0121	1
IEEE 802.11gn HT20 MCS0	2437	15.44	2.41	20	0.0121	1