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.

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Testing Laboratory
0240

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 = 5mW/cm^2) ☒ General Population/Uncontrolled exposure (S=1mW/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

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

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 (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

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

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm^2

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/cm²)	Limit (mW/cm²)
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