IEEE C95.1

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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 Indoor Camera

Model: SVI-1609-5

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	10/03/2016	Initial Issue	All Page	Michelle Chiu

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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 Indoor Camera
Model Number	SVI-1609-5
Identify Number	T160226D04
Received Date	February 26, 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	PCB Antenna × 1, Antenna Gain : 0.9dBi
Maximum average output power	IEEE 802.11b Mode: 18.12 dBm IEEE 802.11g Mode: 16.53 dBm IEEE 802.11gn HT20 MCS0 Mode: 16.43 dBm
Evaluation applied	MPE Evaluation*

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-SVI-1609-5 filing.

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 / cm^2

Mode	Frequency (MHz)	Power (dBm)	Ant. Gain (dBi)	Distance (cm)	Power density (mW/cm^2)	Limit (mW/cm^2)
IEEE 802.11b	2412	18.12	0.9	20	0.0159	1
IEEE 802.11g	2437	16.53	0.9	20	0.011	1
IEEE 802.11gn HT20 MCS0	2437	16.43	0.9	20	0.0108	1