IEEE C95.1

KDB 447498 D03

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

Indoor IP Camera

Model: CM01

Trade Name: Vivint

Issued for

Vivint, Inc.

4931 N. 300 W. Provo, Utah 84604 United States

Issued by

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Testing Laboratory
0240

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	03/01/2016	Initial Issue	All Page	Gloria Chang

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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	Indoor IP Camera
Model Number	CM01
Identify Number	T160216S01
Received Date	January 29, 2016
Frequency band (Operating)	802.11b/g/n HT20 Mode: 2412MHz ~ 2462MHz 802.11n HT40 Mode: 2422MHz ~ 2452MHz
Device category	Mobile (>20cm separation)
Exposure classification	☐ Occupational/Controlled exposure (S = 5mW/cm^2) ☒ General Population/Uncontrolled exposure (S=1mW/cm^2)
Antenna Specification	FPC Antenna, Antenna Gain：2.61 dBi (Numeric gain: 1.82) PIFA Antenna, Antenna Gain：2.46 dBi (Numeric gain: 1.76)
Maximum Peak output power	IEEE 802.11b Mode: 24.12 dBm (258.226 mW) IEEE 802.11g Mode: 27.30 dBm (537.032 mW) IEEE 802.11n HT 20 Mode: 26.89 dBm (488.652 mW) IEEE 802.11n HT 40 Mode: 26.61 dBm (458.142 mW)
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: 2AAAS-CM01 filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.*

3. Test Results

No non-compliance noted.

Calculation

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in watts / meter

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

$$S = \frac{30 \times P \times G}{377 d^2}$$

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

IEEE 802.11b Mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
2462	258.226	1.82	20	0.0935	1

IEEE 802.11g Mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
2437	537.032	1.82	20	0.1945	1

IEEE 802.11n HT20 Mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
2437	488.652	1.82	20	0.1770	1

IEEE 802.11n HT40 Mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm²	Limit (mW/cm2)
2437	458.142	1.82	20	0.1659	1