



RF EXPOSURE EVALUATION REPORT

APPLICANT : Anker Innovations Limited
PRODUCT NAME : Indoor Cam 2K Pan & Tilt
MODEL NAME : T8410
BRAND NAME : eufy SECURITY
FCC ID : 2AOKB-T8410
STANDARD(S) : 47CFR 2.1091
: KDB 447498
RECEIPT DATE : 2020-02-27
TEST DATE : 2020-03-11 to 2020-03-27
ISSUE DATE : 2020-03-30

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REPORT No. : SZ19050100S01

Change History		
Version	Date	Reason for Change
1.0	2020-03-30	First edition



1. Technical Information

Note: Provide by applicant.

1.1 Applicant and Manufacturer Information

Applicant:	Anker Innovations Limited
Applicant Address:	Room 1318-19,Hollywood Plaza,610 Nathan Road, Mongkok, Kowloon, Hong Kong
Manufacturer:	Anker Innovations Limited
Manufacturer Address:	Room 1318-19,Hollywood Plaza,610 Nathan Road, Mongkok, Kowloon, Hong Kong

1.2 Equipment under Test (EUT) Description

Product Name:	Indoor Cam 2K Pan & Tilt
Serial No:	(N/A, marked #1 by test site)
Hardware Version:	V0.2
Software Version:	1.0.1.7
Frequency Bands:	WLAN 2.4GHz: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Modulation Mode:	802.11b: DSSS 802.11g/n-HT20: OFDM Bluetooth LE: GFSK
Antenna Type:	PIFA Antenna
Antenna Gain:	0dBi

Note 1: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



1.3 Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title	Method determination /Remark
1	47 CFR§2.1091	Radio Frequency Radiation Exposure Evaluation: mobile devices	No deviation
2	KDB 447498 D01v06	General RF Exposure Guidance	No deviation

Note 1: The test item is not applicable.

Note 2: Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.



2. Device Category and RF Exposure Limit

Per user manual, Based on 47CFR 2.1091, this device belongs to mobile device category with General Population/Uncontrolled exposure.

Mobile Devices:

47CFR 2.1091(b)

For purposes of this section, a mobile device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter's radiating structure(s) and the body of the user or nearby persons. In this context, the term "fixed location" means that the device is physically secured at one location and is not able to be easily moved to another location. Transmitting devices designed to be used by consumers or workers that can be easily re-located, such as wireless devices associated with a personal computer, are considered to be mobile devices if they meet the 20 centimeter separation requirement.

General Population/Uncontrolled Exposure:

The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity. Warning labels placed on low-power consumer devices such as cellular telephones are not considered sufficient to allow the device to be considered under the occupational/controlled category, and the general population/uncontrolled exposure limits apply to these devices.

Table 1—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz* = Plane-wave equivalent power density



3. RF Output Power

<WLAN 2.4GHz>

2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-up Power	Duty Cycle %
	802.11b 1Mbps		CH 1	2412	21.64	22.0
CH 6			2437	21.92	22.0	
CH 11			2462	21.57	22.0	
802.11g 6Mbps		CH 1	2412	18.03	18.5	93.46
		CH 6	2437	18.00	18.5	
		CH 11	2462	18.00	18.5	
802.11n-HT2 0 MCS0		CH 1	2412	17.96	18.0	92.97
		CH 6	2437	17.69	18.0	
		CH 11	2462	17.62	18.0	

<Bluetooth>

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
LE	CH 00	2402	9.75
	CH 19	2440	9.57
	CH 39	2480	9.65
Tune-up Limit			10.0

Note 1: The output power of WLAN and Bluetooth is derived from the report SZ20020118W01/SZ20020118W02.

4. RF Exposure Evaluation

➤ Standalone Transmission Evaluation:

Bands	Frequency (MHz)	Maximum Tune-up Power (dBm)	Antenna Gain (dBi)	EIRP (mW)	Power Density (mW/cm ²)	Limit for MPE (mW/cm ²)
WLAN 2.4GHz	2437	22.0	0	158.49	0.032	1.0
Bluetooth	2402	10.0	0	10.00	0.002	1.0

Note:

1. The WLAN 2.4G and Bluetooth transmitter share the same antenna, Therefore simultaneous transmission assessment is not required.
2. For 2.4GHz WLAN, only the worst case will be used for calculating the power density.
3. MPE calculate method

$$\text{Power Density} = \text{EIRP}/4\pi R^2$$

Where: EIRP = P+G

P = Output Power (dBm)

G = Antenna Gain (dBi)

R = Separation Distance (20cm)

➤ Simultaneous Transmission Evaluation:

The WLAN 2.4G and Bluetooth transmitter share the same antenna, Therefore simultaneous transmission assessment is not required.

➤ Conclusion:

According to 47 CFR §2.1091, this device complies with human exposure basic restrictions.



Annex A General Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
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2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

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