RF EXPOSURE EVALUATION REPORT

APPLICANT	:	Anker Innovations Limited
PRODUCT NAME	:	eufy SECURITY 4G Starlight Camera
MODEL NAME	:	T8150
BRAND NAME	:	eufy SECURITY
FCC ID	:	2AOKB-T8150
STANDARD(S)	:	FCC 47CFR Part 2(2.1091)
RECEIPT DATE	:	2021-11-15
TEST DATE	:	2022-01-18 to 2022-01-26
ISSUE DATE	:	2022-02-08

Edited by: Gan Yueming

Gan Yueming (Rapporteur)

Approved by: Shen Junsheng

Shen Junsheng (Supervisor)

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DIRECTORY

Change History		
Version	**Date**	**Reason for Change**
1.0	2021-02-08	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:	eufy SECURITY 4G Starlight Camera	
EUT No.:	1#	
Hardware Version:	V0.4	
Software Version:	V1.0	
Frequency Bands:	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 66: 1710 MHz ~ 1755 MHz LTE Band 71: 663 MHz ~ 698 MHz	
Modulation Mode:	WCDMA: QPSK,16QAM LTE: QPSK,16QAM	
Antenna Type:	Fixed Internal Antenna	
Antenna Gain:	Frequency Bands	Antenna Gain (dBi)
	WCDMA Band II	1.77
	WCDMA Band IV	2.28
	WCDMA Band V	5.03
	LTE Band 2	1.59

	LTE Band 4	1.71
	LTE Band 5	5.03
	LTE Band 12	3.22
	LTE Band 13	4.8
	LTE Band 14	5.0
	LTE Band 66	1.84
	LTE Band 71	1.39

Note:

When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals.

1.3 Applied Reference Documents

Leading reference documents for testing:

Identity	Document Title	Method determination /Remark
FCC 47CFR Part 2(2.1091)	Radio Frequency Radiation Exposure Assessment: mobile devices	No deviation
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

➢ **Maximum Output Power**

Frequency Bands	Frequency (MHz)	Conducted Power (dBm)
WCDMA Band II	1910	25.0
WCDMA Band IV	1755	25.0
WCDMA Band V	849	25.0
LTE Band 2	1910	25.0
LTE Band 4	1755	25.0
LTE Band 5	849	25.0
LTE Band 12	716	25.0
LTE Band 13	787	25.0
LTE Band 14	798	25.0
LTE Band 66	1780	25.0
LTE Band 71	698	25.0

Note:

1. According to KDB 447498 Section 4.3, MPE assessment is based on source-based time-averaged maximum conducted output power of the RF channel requiring assessment, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.
2. The output power is derived from the module report R2007A0434-M1_YIYUAN_EC25-AFXD FCC.

4. RF Exposure Assessment

➢ **Standalone Transmission Assessment**

Bands	Tune-up Power (dBm)	Antenna Gain (dBi)	EIRP (mW)	PD (mW/cm²)	Limit Value (mW/cm²)
WCDMA Band II	25.0	1.77	475.34	0.095	1.0
WCDMA Band IV	25.0	2.28	534.56	0.106	1.0
WCDMA Band V	25.0	5.03	1006.93	0.2	0.566
LTE Band 2	25.0	1.59	456.04	0.091	1.0
LTE Band 4	25.0	1.71	468.81	0.093	1.0
LTE Band 5	25.0	5.03	1006.93	0.2	0.566
LTE Band 12	25.0	3.22	663.74	0.132	0.477
LTE Band 13	25.0	4.8	954.99	0.19	0.525
LTE Band 14	25.0	5.0	1000.00	0.199	0.532
LTE Band 66	25.0	1.84	483.06	0.096	1.0
LTE Band 71	25.0	1.39	435.51	0.087	0.465

Note:

1. According to KDB 447498, MPE assessment is based on source-based time-averaged maximum conducted output power of the RF channel requiring assessment, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.
2. MPE calculate method

$$S = PG/4\pi R^2$$

Where: S= Power density (in appropriate units, e.g. mW/cm^2)

P = Time-average maximum tune-up power (in appropriate units, e.g. dBm)

G = numeric gain of the antenna (in appropriate units, e.g. dBi)

R = Separation distance to the centre of radiation of the antenna (20cm)

➢ **Simultaneous Transmission Assessment**

This device only incorporates a WWAN transmitter, therefore simultaneous 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.
Laboratory Address:	FL.1-3, 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.
Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

The FCC designation number is CN1192, the test firm registration number is 226174.

END OF REPORT