RF Exposure Evaluation Declaration

FCC ID: 2ANDLTY-R8816

Applicant: Hangzhou Tuya Information Technology Co., Ltd

Application Type: Certification

Product: Smart Camera

Model No.: SC114-WK2

Brand Name: TUYA

FCC Classification: Digital Transmission System (DTS)
Unlicensed National Information Infrastructure (UNII)

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ACCREDITED
TESTING LABORATORY
CERTIFICATE #3628.01

Revision History

Report No.	Version	Description	Issue Date	Note
2005RSU047-U3	Rev. 01	Initial Report	07-17-2020	Valid

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Smart Camera
Model No.	SC114-WK2
Brand Name	TUYA
Wi-Fi Specification	802.11a/b/g/n/ac
Antenna Type:	FPC Antenna
Antenna Gain:	3.00dBi

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Average Time (Minutes)
(A) Limits for Occupational / Control Exposures				
300-1500	--	--	f/300	6
1500-100000	--	--	5	6
(B) Limits for General Population / Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $P_d = (P_{out}*G)/(4*pi*r^2)$

Where

P_d = power density in mW/cm^2

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

r = distance between observation point and center of the radiator in cm

P_d is the limit of MPE, $1mW/cm^2$. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	Smart Camera
Test Item	RF Exposure Evaluation

Antenna Gain: 3.00dBi.

Test Mode	Frequency Band (MHz)	Max Conducted Power (dBm)	Max Conducted Power (mW)	Max EIRP (mW)	Power Density at R = 20 cm (mW/cm^2)	Limit (mW/cm^2)
802.11b/g/n	2412 ~ 2462	13.38	21.78	43.45	0.0086	1
802.11a/ac	5180 ~ 5240	10.67	11.67	23.28	0.0046	1
	5745 ~ 5825					

Conclusion:

2.4G Wi-Fi and 5G Wi-Fi can't transmit simultaneously.

Therefore, the Safety Distance is 20 cm.

The End

Appendix A - EUT Photograph

Refer to “2005RSU047-UE” file.