



Maximum Permissible Exposure Evaluation

FCC ID: 2A5OS-K04

1. General Information about EUT

1.1 Client Information

Applicant	:	Shenzhen Tino Security Corp., LTD
Address	:	201, No.7, HeDian Industry Park FuMin Community, FuCheng Street, LongHua District, Shenzhen, China
Manufacturer	:	Shenzhen Tino Security Corp., LTD
Address	:	201, No.7, HeDian Industry Park FuMin Community, FuCheng Street, LongHua District, Shenzhen, China

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Smart Home Security Camera
Models No.	:	K04 , K03, K05, K06, K07, K08, K09, K10, K11, K12, K13, K14, K15, K16, K17, K18, K19
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is appearance.
Brand Name	:	N/A
Sample ID	:	HC-C-202405-0062-01-01
Product Description	:	Operation Frequency: BLE: 2402MHz~2480MHz U-NII-1: 5180MHz~5240MHz U-NII-3: 5745MHz~5825MHz 802.11b/g/n/ax: 2412MHz~2462MHz
Power Rating	:	Input: 5.0V=1.0A
Software Version	:	V0.0.1
Hardware Version	:	K04_V1
Remark	:	N/A

1.3 Antenna Information

Band	Antenna Type	Antenna Gain(dBi)
BLE	PIFA	2.68
2.4G Wi-Fi	PIFA	2.68
U-NII-1		3.11
U-NII-3		3.21
Remark: The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.		

2. Method of Measurement for FCC

1. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

2. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

Where

S: power density

P: power input to the antenna

G: power gain of the antenna in the direction of interest relative to an isotropic radiator.

R: distance to the center of radiation of the antenna

Simultaneous transmission MPE Considerations

According to KDB447498: All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1. Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0 .

This means that:

$$\sum \text{ of MPE ratios } \leq 1.0$$



3. Test Result:

Worst MPE Result							
Test Mode	Fre. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	Max. ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
BLE	2402	7.067	7±1	8	2.68	20	0.0023
	2440	5.708	6±1	7	2.68	20	0.0018
	2480	4.270	4±1	5	2.68	20	0.0012
2.4G b	2412	22.97	22±1	23	2.68	20	0.0736
	2437	21.92	22±1	23	2.68	20	0.0736
	2462	21.66	22±1	23	2.68	20	0.0736
2.4G g	2412	18.62	19±1	20	2.68	20	0.0369
	2437	19.44	19±1	20	2.68	20	0.0369
	2462	18.78	19±1	20	2.68	20	0.0369
2.4G n20	2412	16.57	17±1	18	2.68	20	0.0233
	2437	17.49	17±1	18	2.68	20	0.0233
	2462	16.29	17±1	18	2.68	20	0.0233
2.4G n40	2422	14.30	14±1	15	2.68	20	0.0117
	2437	14.82	14±1	15	2.68	20	0.0117
	2452	14.43	14±1	15	2.68	20	0.0117
2.4G ax20	2412	17.28	17±1	18	2.68	20	0.0233
	2437	17.12	17±1	18	2.68	20	0.0233
	2462	16.94	17±1	18	2.68	20	0.0233
2.4G ax40	2422	12.90	13±1	14	2.68	20	0.0093
	2437	13.51	13±1	14	2.68	20	0.0093
	2452	13.11	13±1	14	2.68	20	0.0093
5G a	5180	15.80	16±1	17	3.11	20	0.0204
	5200	16.17	16±1	17	3.11	20	0.0204
	5240	15.67	16±1	17	3.11	20	0.0204
	5745	20.64	20±1	21	3.21	20	0.0524
	5785	20.68	20±1	21	3.21	20	0.0524
	5825	18.91	19±1	20	3.21	20	0.0417
5G n20	5180	13.06	13±1	14	3.11	20	0.0102
	5200	13.25	13±1	14	3.11	20	0.0102
	5240	15.52	15±1	16	3.11	20	0.0162
	5745	18.59	18±1	19	3.21	20	0.0331
	5785	18.63	18±1	19	3.21	20	0.0331
	5825	18.11	18±1	19	3.21	20	0.0331
5G n40	5190	12.41	12±1	13	3.11	20	0.0081
	5230	15.19	15±1	16	3.11	20	0.0162
	5755	16.79	16±1	17	3.21	20	0.0209
	5795	16.91	16±1	17	3.21	20	0.0209
5G ac20	5180	12.14	12±1	13	3.11	20	0.0081
	5200	10.62	11±1	12	3.11	20	0.0065
	5240	12.97	12±1	13	3.11	20	0.0081
	5745	18.37	18±1	19	3.21	20	0.0331
	5785	16.75	17±1	18	3.21	20	0.0263
	5825	18.06	18±1	19	3.21	20	0.0331
5G ac40	5190	11.29	11±1	12	3.11	20	0.0065
	5230	10.11	11±1	12	3.11	20	0.0065
	5755	17.56	17±1	18	3.21	20	0.0263
	5795	17.63	17±1	18	3.21	20	0.0263
5G ax20	5180	10.30	10±1	11	3.11	20	0.0051
	5200	12.32	12±1	13	3.11	20	0.0081
	5240	12.84	12±1	13	3.11	20	0.0081
	5745	16.50	16±1	17	3.21	20	0.0209
	5785	18.39	18±1	19	3.21	20	0.0331
	5825	17.98	18±1	19	3.21	20	0.0331
5G ax40	5190	8.26	8±1	9	3.11	20	0.0032
	5230	10.65	10±1	11	3.11	20	0.0051
	5755	16.68	16±1	17	3.21	20	0.0209
	5795	16.89	16±1	17	3.21	20	0.0209



4. Conclusion:

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

Limits for General Population/ Uncontrolled Exposure

Frequency Range (MHz)	Power density (mW/ cm ²)
300-1,500	F/1500
1,500-100,000	1.0

For: 2402~2480MHz&2412~2462MHz&5180~5240&5745~5825MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.0736 \text{ mW} / \text{cm}^2 < \text{limit } 1 \text{ mW} / \text{cm}^2$.

So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b). The RF Exposure Information page from the manual is included here for reference.

-----END OF THE REPORT-----

