Maximum Permissible Exposure Evaluation
FCC ID: 2A3FJ-XC100

1. Client Information

Applicant	:	APEMAN USA LLC.
Address	:	1810 E SAHARA AVE STE 215, Las Vegas, NV 89104, USA
Manufacturer	:	APEMAN USA LLC.
Address	:	1810 E SAHARA AVE STE 215, Las Vegas, NV 89104, USA
Factory	:	ShenZhen Golden Vision Technology Development Co.,Ltd
Address	:	Baofu Road No.6 Baolai Industrial Park, Shangmugu Village, Pinghu Town, Longgang District, Shenzhen City, Guangdong Province, China

2. General Description of EUT

EUT Name	:	Indoor Cam	
Models No.	:	XC100	
Product Description	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
		Number of Channel:	802.11b/g/n(HT20):11 channels 802.11n(HT40): 7 channels
		RF Output Power:	802.11b: 14.697dBm 802.11g: 13.164dBm 802.11n (HT20): 12.442dBm 802.11n (HT40): 12.757dBm
		Antenna Gain:	2.5dBi PCB Antenna
Power Rating	:	For Adapter: Input: AC 100-240V, 50/60Hz, 0.2A Output: DC 5V, 1A	
Software Version	:	N/A	
Hardware Version	:	N/A	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark	:	the MPE report used the EUT(20210928-15_1-02#).	

MPE Calculations for WIFI

1. **Antenna Gain:**
   PCB Antenna:2.5dBi.

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

3. **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

4. **Test Result:**

Worst Maximum MPE Result								
Mode	N_{TX}	Freq. (MHz)	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/cm^2) [S]
802.11b	1	2412	14.697	14±1	15	2.5	20	0.01119
		2437	13.476	13±1	14	2.5	20	0.00889
		2462	13.419	13±1	14	2.5	20	0.00889
802.11g	1	2412	13.164	13±1	14	2.5	20	0.00889
		2437	13.04	13±1	14	2.5	20	0.00889
		2462	12.569	12±1	13	2.5	20	0.00706
802.11n(HT20)	1	2412	12.442	12±1	13	2.5	20	0.00706
		2437	12.255	12±1	13	2.5	20	0.00706
		2462	11.775	11±1	12	2.5	20	0.00561
802.11n(HT40)	1	2422	12.757	12±1	13	2.5	20	0.00706
		2437	12.402	12±1	13	2.5	20	0.00706
		2452	12.259	12±1	13	2.5	20	0.00706

Note:
(1) N_{TX}= Number of Transmit Antennas
(2) RF Output power specifies that Maximum Conducted Peak Output Power.

5. 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 2.4WIFI:2412~2462 MHz

MPE limit S: 1mW/ cm^2

The MPE is calculated as **0.01119 *mW / cm²* < *limit 1mW / cm²***. 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.

Note

For a more detailed features description, please refer to the RF Test Report.

6. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

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