

Maximum Permissible Exposure Evaluation

FCC ID: 2AWNK-VM300TX

1. Client Information

Applicant	:	Shenzhen Apeman Innovations Technology Co., Ltd.
Address	:	1808, Heng Lu E Times Building, No. 159, North Pingji Road, Hehua Community, Pinghu Street, Longgang District, Shenzhen, Guangdong, CHINA
Manufacturer	:	Shenzhen Apeman Innovations Technology Co., Ltd.
Address	:	1808, Heng Lu E Times Building, No. 159, North Pingji Road, Hehua Community, Pinghu Street, Longgang District, Shenzhen, Guangdong, CHINA

2. General Description of EUT

EUT Name	:	Baby Monitor	
Models No.	:	VM300TX, VM300, VM300S, VM430, VM430S, VM500, VM510, VM550, VM200, VM200S, BM24, BM32, BM24S, BM32S	
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is appearance.	
Sample ID	:	20210422-06-01	
Product Description	:	Operation Frequency:	2406MHz~2475MHz
		RF Output Power:	18.638dBm
		Antenna Gain:	3dBi Internal Antenna
		Modulation Type:	GFSK (4Mbps)
Power Rating	:	Adapter (TPQ-236A050100UW01) Input: 100-240V~, 50/60Hz, 0.3A Output: DC 5V1A	
Software Version	:	VM300-TX-V1.0	
Hardware Version	:	VM300TX-V01(20210430)	
Remark	:	The adapter and antenna gain provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.	

TB-RF-075-1.0

MPE Calculations for 2.4G

1. Antenna Gain:

Internal Antenna: 3dBi.

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:

Mode	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]
2406	18.638	18±1	19	3	20	0.0315
2442	18.391	18±1	19	3	20	0.0315
2475	18.270	18±1	19	3	20	0.0315

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 GFSK:2406~2475 MHz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.0315 \text{ mW} / \text{cm}^2 < \text{limit } 1 \text{ mW} / \text{cm}^2$. 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.

Note

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

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