

Maximum Permissible Exposure Evaluation

FCC ID: 2AH3E-NVR02

1. Client Information

Applicant : OPCOM O.E.(DONG GUAN)INC.
Address : Gu Cun Industry Estate, Dajing Countryside Committee,
Houjie Town, Dongguan City, Guang Dong Province, China
Manufacturer : Shenzhen Annidigital Technology Co., Ltd
Address : 3rd Floor, Building D, Shangxue HiTech Industrial Park, Bantian,
Longgang District, Shenzhen City, China

2. General Description of EUT

EUT Name	:	Wireless NVR	
Models No.	:	NVR02	
Model Difference	:	N/A	
Product Description	:	Operation Frequency: 2408MHz~2468MHz	
		Number of Channel:	31 Channels
		RF Output Power:	16.94 dBm
		Antenna Gain:	3 dBi Dipole Antenna
		Modulation Type:	GFSK
		Bit Rate of Transmitter:	4Mbps
Power Supply	:	DC power supplied by AC/DC Adapter.	
Power Rating	:	AC/DC Adapter: Input:100~240V, 50/60Hz 0.6A Output:12V, 2000mA	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Note: More detail information about Equipment, please refer to User's manual, more information about the RF, please refer to test report.			

MPE Calculations for WIFI

1. Antenna Gain:

Ant.	Brand	Model Name	Antenna Type	Gain (dBi)
1	N/A	N/A	Dipole Ant.	3

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}	Power(max) (dBm) [P]	ANT Gain (dBi) [G]	Turn-up Power Tolerance (dB)	Distance (cm) [R]	Power Density (mW/ cm ²) [S]
2408	1	16.51	3.0	±1	20	0.02237396
2440	1	16.60	3.0	±1	20	0.02284246
2468	1	16.94	3.0	±1	20	0.02470262

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 : 2.4G: 2408MHz~2468MHz

MPE limit S: 1 mW/ cm²

The MPE is calculated as 0.02470262mW / cm² < limit 1 mW / 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.