Maximum Permissible Exposure Evaluation

FCC ID: 2AG4D-6613H01

1. Client Information

Applicant	:	FlyAudio Corporation (China)
Address	:	No.16, Mingzhu Road, Economical & Technology Development Zone, Guangzhou, China, 510730
Manufacturer	:	FlyAudio Corporation (China)
Address	:	No.16, Mingzhu Road, Economical & Technology Development Zone, Guangzhou, China, 510730

2. General Description of EUT

EUT Name	:	CAR NAVIGATION SYSTEM WITH ENTERTAINMENT
Models No.	:	66132H01, 66139E01, 66139E02, 66139E03, 66023E13, 66023E16, 66023E21, 66182H01, 66171H01, 66160H01, 66000J02, 66158H02, 66205H01, 66151H01, 66151H02, 66151H04, 66132H01, 66007H09, 66006H01, 66127H01, 66088H01, 66023H01, 66060H01, 66167H01, 66023H19, 66074E02, 66098H01, 66104H01, 66107H01, 66090B01, 66090E01, 66103H01, 66118H01, 66006J01, 66023J01, 66023J19, 66007J09, 66157J01, 66129H01, 66126H01, 66126H02, 66126H03, 66172H01, 66158H01, 66193H01, 66195H01, 66178H01, 66829H03, 66174H01, 66175H01, 66176H01, 66205H02, 66526H01, 66118J01, 66160J01, 66150H01, 66074J02, 66089E01, 66089E02, 66089H01, 66139H01, 66139H02, 66139H03, 66090H01, 66109H01, 66110H01, 66111H01, 66112H01, 66113H01, 66114H01, 66115H01, 66116H01、66123H01, 66124H01, 66144H01, 66215H01, 66216H01, 66217H01, 66218H01, 66219H01, 66220H01, 66221H01, 66222H01, 66223H01, 66224H01, 66225H01, 66226H01, 66227H01, 66228H01, 66229H01, 66230H01, 66231H01, 66232H01, 66233H01, 66234H01, 66235H01, 66236H01, 66237H01, 66238H01, 66239H01, 66240H01
Brand Name	:	FlyAudio
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.

1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, China
Tel: +86 75526509301 Fax: +86 75526509195

Product Description	:	Operation Frequency: Bluetooth 2.1+EDR: 2402MHz~2480MHz	
		Number of Channel:	Bluetooth:79 Channels **See Note 3**
		Max Peak Output Power:	Bluetooth: 4.018dBm(GFSK)
		Antenna Gain:	2 dBi PCB Antenna
		Modulation Type:	GFSK 1Mbps(1 Mbps) π/4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	:	DC power by DC Battery.	
Power Rating	:	DC 11~16V by DC Battery.	
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.			

1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, China
Tel: +86 75526509301 Fax: +86 75526509195

MPE Calculations for WIFI

1. Antenna Gain:

Ant.	Brand	Model Name	Antenna Type	Gain (dBi)
1	N/A	N/A	PCB Ant.	2

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]**
GFSK	**1**	**4.018**	**2**	**±1**	**20**	**0.0010012**
π /4-DQPSK	**1**	**3.275**	**2**	**±1**	**20**	**0.0008438**
8-DPSK	**1**	**3.400**	**2**	**±1**	**20**	**0.0008684**

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 : Bluetooth 2.1+EDR: 2402MHz~2480MHz
MPE limit S: 1 mW/cm^2
The MPE is calculated as 0.0010012mW/cm^2 < limit 1 mW/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.