

Maximum Permissible Exposure Evaluation

FCC ID: 2AHG7YT-BTA

1. Client Information

Applicant : Guangzhou Yatour Electronics CO., LTD
Address : Room 213, District C, Longfu Autoparts Centre, Hengfu Rd.,
Yuexiu District, Guangzhou, China
Manufacturer : Guangzhou Yatour Electronics CO., LTD
Address : Room 213, District C, Longfu Autoparts Centre, Hengfu Rd.,
Yuexiu District, Guangzhou, China

2. General Description of EUT

EUT Name	:	Bluetooth Car Adapter	
Models No.	:	YT-BTA	
Brand Name	:	YATOUR	
Model Difference	:	N/A	
Product Description	:	Operation Frequency: Bluetooth 3.0: 2402MHz~2480MHz	
	:	Number of Channel:	Bluetooth:79 Channels See Note 3
	:	Max Peak Output Power:	Bluetooth: 4.56 dBm(GFSK)
	:	Antenna Gain:	0.5 dBi PCB Antenna
	:	Modulation Type:	GFSK 1Mbps(1 Mbps) π /4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	:	DC power from CD Changer.	
Power Rating	:	Input: DC 12V.	
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.			

TB-RF-075-1.0

MPE Calculations for BT

1. Antenna Gain:

Ant.	Brand	Model Name	Antenna Type	Gain (dBi)
1	N/A	N/A	PCB Ant.	0.5

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	4.56	0.5	±1	20	0.00080305
π /4-DQPSK	1	3.98	0.5	±1	20	0.00070266
8-DPSK	1	4.17	0.5	±1	20	0.00073408
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 3.0: 2402MHz~2480MHz

MPE limit S: 1 mW/ cm²

The MPE is calculated as $0.00080305 \text{ mW} / \text{cm}^2 < \text{limit } 1 \text{ mW} / \text{cm}^2$.

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.