

RF Exposure Evaluation

FCC ID: 2AFXA-MPQ914

1. Client Information

Applicant	:	FengShun Peiying Electro-Acoustic Co., Ltd
Address	:	No.8, Fengda Road, Tangkeng Town Industrial Area, Fengshun County, Meizhou City, Guangdong Province, P.R. China
Manufacturer	:	FengShun Peiying Electro-Acoustic Co., Ltd
Address	:	No.8, Fengda Road, Tangkeng Town Industrial Area, Fengshun County, Meizhou City, Guangdong Province, P.R. China

2. General Description of EUT

EUT Name	:	AM/FM/USB Receiver	
Models No.	:	MPQ914, XDM9H, XDM9Q, MPR419Q	
Model Difference	:	All these models are in the same PCB, layout and electrical circuit, the only difference is Appearance.	
Product Description	:	Operation Frequency:	Bluetooth: 2402~2480 MHz
		Number of Channel:	Bluetooth: 79 Channels
		RF Output Power:	Bluetooth: -4.788dBm(GFSK)
		Antenna Gain:	1.2 dBi PCB Antenna
	:	Modulation Type:	GFSK (1 Mbps) Pi/4-DQPSK (2 Mbps) 8-DPSK (3 Mbps)
Power Supply	:	DC Voltage supplied by Li-ion batter	
Power Rating	:	DC 12V	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note: More test information about the EUT please refer the RF Test Report.

MPE Calculations for WIFI

1. Antenna Gain:

PCB Antenna: 1.2dBi.

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]
GFSK	-4.788	-4.788±1	-3.788	1.2	20	0.000110
$\pi/4$ -DQPSK	-5.007	-5.007±1	-4.007	1.2	20	0.000104
8-DPSK	-4.847	-4.847±1	-3.847	1.2	20	0.000108

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 / π /4-DQPSK/ 8-DPSK:2402-2480Mhz

MPE limit S: 1mW/ cm²

The MPE is calculated as $0.000110\text{mW} / \text{cm}^2 < \text{limit } 1\text{mW} / \text{cm}^2$. 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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