

# RF Exposure Evaluation

## FCC ID: 2AFXA-MPQ914

### 1. Client Information

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

### 2. General Description of EUT

<b>EUT Name</b>	:	AM/FM/USB Receiver
<b>Models No.</b>	:	MPQ914, XDM9H, XDM9Q, MPR419Q
<b>Model Difference</b>	:	All these models are in the same PCB, layout and electrical circuit, the only difference is Apperance.
<b>Product Description</b>	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)
<b>Power Supply</b>	:	DC Voltage supplied by Li-ion batter
<b>Power Rating</b>	:	DC 12V
<b>Connecting I/O Port(S)</b>	:	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

$$S = (P_G) / 4\pi R^2$$

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 <sup>2</sup> ) [S]
GFSK	-4.788	<b>-4.788 ± 1</b>	<b>-3.788</b>	1.2	20	<b>0.000110</b>
$\pi/4$ -DQPSK	-5.007	<b>-5.007 ± 1</b>	<b>-4.007</b>	1.2	20	<b>0.000104</b>
8-DPSK	-4.847	<b>-4.847 ± 1</b>	<b>-3.847</b>	1.2	20	<b>0.000108</b>

**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 <sup>2</sup> )
300-1,500	F/1500
1,500-100,000	1.0

For GFSK / π /4-DQPSK/ 8-DPSK:2402-2480Mhz

MPE limit S: 1mW/ cm<sup>2</sup>

The MPE is calculated as **0.000110mW / cm<sup>2</sup> < limit 1mW / cm<sup>2</sup>**. 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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