

## FCC RF EXPOSURE REPORT

Sam Ash Music Corporation

2.4G Wireless microphone Receiver

Model Number: RXD2M

FCC ID: CCRRXD2M

|               |                                                                     |
|---------------|---------------------------------------------------------------------|
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|               |                                                                     |
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## 1. Applicable Standards

FCC Part 2(Section 2.1093)

FCC KD B447498 D01 General RF Exposure Guidance v06

## 2. Exposure Evaluation of Portable or Mobile Devices

Human exposure to RF emissions from portable devices (47 CFR §2.1093), as defined by the FCC, must be evaluated with respect to the FCC-adopted limits for SAR. Evaluation of mobile devices, as defined by the FCC, may also be performed with respect to SAR limits, but in such cases it is usually simpler and more cost-effective to evaluate compliance with respect to field strength or power density limits. For certain devices that are designed to be used in both mobile and portable configurations similar to those described in 47 CFR §2.1091(d)(4), such as certain desktop phones and wireless modem modules, compliance for mobile configurations is also satisfied when the same device is evaluated for SAR compliance in portable configurations.

**SAR Test Exclusion Thresholds for 100 MHz - 6 GHz and  $\leq 50$  mm**

| MHz  | 5  | 10 | 15  | 20  | 25  | mm                                      |
|------|----|----|-----|-----|-----|-----------------------------------------|
| 150  | 39 | 77 | 116 | 155 | 194 | SAR Test<br>Exclusion<br>Threshold (mW) |
| 300  | 27 | 55 | 82  | 110 | 137 |                                         |
| 450  | 22 | 45 | 67  | 89  | 112 |                                         |
| 835  | 16 | 33 | 49  | 66  | 82  |                                         |
| 900  | 16 | 32 | 47  | 63  | 79  |                                         |
| 1500 | 12 | 24 | 37  | 49  | 61  |                                         |
| 1900 | 11 | 22 | 33  | 44  | 54  |                                         |
| 2450 | 10 | 19 | 29  | 38  | 48  |                                         |
| 3600 | 8  | 16 | 24  | 32  | 40  |                                         |
| 5200 | 7  | 13 | 20  | 26  | 33  |                                         |
| 5400 | 6  | 13 | 19  | 26  | 32  |                                         |
| 5800 | 6  | 12 | 19  | 25  | 31  |                                         |

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$

where

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

### 3. Evaluation Results

ANT 1+ANT2:

For 2.4G SRD

Ant gain=0dBi

Ant numeric gain= 1

Field strength = 75.28 dBuV/m@3m

$P = \{ [10^{(75.28/20)} / 10^6 * 3]^2 / (30 * 1) \} * 1000 \text{mW} = 0.010 \text{mW}$

$(0.01 \text{mW} / 5 \text{mm}) * \sqrt{2.404 \text{GHz}} = 0.0031 < 3.0$

Note:

$\text{eirp} = \text{pt} \times \text{gt} = (\text{E} \times \text{d})^2 / 30$

where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, ---  $10^{((\text{dBuV/m})/20)} / 10^6$

d = measurement distance in meters (m)---3m

$\text{Sopt} = (\text{E} \times \text{d})^2 / 30 \times \text{gt}$

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] < 3.0.$

SAR Test Exclusion Thresholds is 3.0 for separation distance 5mm. Therefore, SAR test is not required.

**End of Test Report**

