

## RF EXPOSURE EVALUATION

### 1. PRODUCT INFORMATION

|                     |                         |
|---------------------|-------------------------|
| Product Description | WIRELESS FM TRANSMITTER |
| Test Model          | CZ446                   |
| Series Model        | CF446A, 446             |
| FCC ID              | 2A3JH-CF446A            |

### 2. EVALUATION METHOD

According to 447498 D01 General RF Exposure Guidance v06

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:

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

### 3. CALCULATION

$P_t = 2.893\text{dBm} = 1.95\text{mW}$

The value of the Maximum output power  $P_t$  is referred to the test report of the CFR47 §15.247.

The result for RF exposure evaluation  $\text{SAR} = (1.95\text{mW} / 5\text{mm}) \cdot [\sqrt{2.402(\text{GHz})}] = 0.60 < 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR.

§15.239

FM  $P_t = -64.41\text{dBm} = 0.00000036\text{mW}$

The value of the Maximum output power  $P_t$  is referred to the test report of the CFR47 For frequencies below 100 MHz and test separation distances  $\leq 50$  mm, the power threshold determined by the following:

$P_{\text{max}} = 0.5 \cdot 474 \cdot [1 + \log(100/f)]$  mW, where  $f$  is MHz

For 88.1MHz,  $P_{\text{max}} = 250\text{mW}$ .  $P_t < P_{\text{max}}$ .

For 107.9MHz,  $P = 3 \times 5 / 0.1079^{0.5} = 45.7$  mW

$P_{\text{max}} = 45.7\text{mW}$ .  $P_t < P_{\text{max}}$ .

Simultaneous transmission between Bluetooth and FM transmitter:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})/x}]$  W/kg, for test separation distances  $\leq 50$  mm;

where  $x = 7.5$  for 1-g SAR and  $x = 18.75$  for 10-g SAR.

$\text{SAR} = (0.60 + 0.00000036) / 7.5 = 0.08\text{W/kg} < 1.6\text{W/kg}$

### 4. CONCLUSION

The SAR evaluation is not required.



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