# RF EXPOSURE EVALUATION

## 1.  PRODUCT INFORMATION

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|---|---|
| Product Description | Bluetooth FM Transmitter |
| Model Name | BT21L, AHF9-1011-BLK, MHF9-1009-BLK |
| FCC ID | 2AHASBT21L |

## 2.  EVALUATION METHOD

According to 447498 D01 General RF Exposure Guidance v05
The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[$\sqrt{f(GHz)}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR.
Where f(GHz) is the RF channel transmit frequency in GHz
Power and distance are rounded to the nearest mW and mm before calculation

## 3.  CALCULATION

$P_t$=3.292dBm=2.13mW

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 SAR=(2.13mW /5mm) * [$\sqrt{2.402GHz}$)]= 0.66<3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR.


§15.239

FM Pt=-49.23dBm=0.0000119mW

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 ≤ 50 mm，the power threshold determined by the following:

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

For 88.1MHz, $P_{max}$=250mW. Pt< $P_{max.}$


For 107.9MHz, P = 3 x 5 / 0.1079^0.5 = 45.7 mW
$P_{max}$=45.7mW. Pt< $P_{max.}$

Simultaneous transmission between Bluetooth and FM transmitter:
[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] • [ $\sqrt{f(GHz)}/x$] W/kg, for test separation distances ≤ 50 mm;
where x = 7.5 for 1-g SAR and x = 18.75 for 10-g SAR.
SAR=(0.66+0. 0000007064)/7.5=0.088W/kg<1.6W/kg

## 4.  CONCLUSION
The SAR evaluation is not required.