

## RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in § 1.1307(b)

FCC ID: AX2M502

### EUT Specification

EUT	CAR AUDIO
<b>Frequency band (Operating)</b>	<input type="checkbox"/> WLAN: 2.412GHz ~ 2.462GHz <input type="checkbox"/> WLAN: 5.18GHz ~ 5.32GHz / 5.50GHz ~ 5.70GHz <input type="checkbox"/> WLAN: 5.745GHz ~ 5825GHz <input checked="" type="checkbox"/> Others
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others ____
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )
<b>Antenna diversity</b>	<input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
<b>Max. output power</b>	1.42dBm (0.00139W)
<b>Antenna gain (Max)</b>	-2.34 dBi
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

Limits for Maximum Permissible Exposure(MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm <sup>2</sup> )	Average Time
<b>(A) Limits for Occupational/Control Exposures</b>				
<b>300-1500</b>	--	--	<b>F/300</b>	<b>6</b>
<b>1500-100000</b>	--	--	<b>5</b>	<b>6</b>
<b>(B) Limits for General Population/Uncontrol Exposures</b>				
<b>300-1500</b>	--	--	<b>F/1500</b>	<b>6</b>
<b>1500-100000</b>	--	--	<b>1</b>	<b>30</b>

## Friis transmission formula: $Pd=(Pout \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

$Pd$ = Power density in  $mW/cm^2$

$Pout$ =output power to antenna in Mw

$G$ = gain of antenna in linear scale

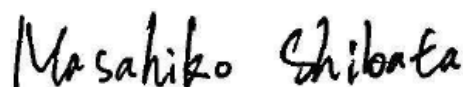
$\pi=3.1416$

$R$ = distance between observation point and center of the radiator in cm

$Pd$  the limit of MPE,  $1mW/cm^2$ . If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

## Measurement Result

Operating Mode	Channel Frequency (MHz)	Output Peak power (mW)	Antenna Gain (dBi)	Power density at 20cm ( $mW/cm^2$ )	Power density Limits ( $mW/cm^2$ )
op-mode 1	2402	1.250	-2.34	1.45E-04	1
op-mode 2	2441	1.297	-2.34	1.51E-04	1
op-mode 3	2480	1.164	-2.34	1.35E-04	1
op-mode 6	2402	1.291	-2.34	1.50E-04	1
op-mode 7	2441	1.387	-2.34	1.59E-04	1
op-mode 8	2480	1.202	-2.34	1.53E-04	1
op-mode 10	2402	1.143	-2.34	1.33E-04	1
op-mode 11	2441	1.365	-2.34	1.59E-04	1
op-mode 12	2480	1.047	-2.34	1.22E-04	1



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