

# RF Exposure Evaluation

## FCC ID: 2AA5V-F4056591

### 1. Client Information

**Applicant** : Krischerco World-Wide Co.  
**Address** : 13/F-8, 155 Keelung Rd. Sec.1, Taipei, Taiwan  
**Manufacturer** : SHENZHEN Moccer Industrial Co., Ltd  
**Address** : 3F, 1st Building CaiFa Industrial Park, RenMing Rd., Guan Lan, Shenzhen, China

### 2. General Description of EUT

<b>EUT Name</b>	:	WIRELESS SHOWER SPEAKER
<b>Models No.</b>	:	F4056591, PP#5268143
<b>Model Difference</b>	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.
<b>Product Description</b>	Operation Frequency:	Bluetooth 3.0: 2402~2480MHz
	Number of Channel:	Bluetooth: 79 Channels
	Max Peak Output Power:	Bluetooth: 4.543 dBm(8-DPSK)
	Antenna Gain:	1.2 dBi PCB Antenna
	Modulation Type:	GFSK 1Mbps(1 Mbps) π/4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
<b>Power Supply</b>	:	DC Voltage supplied from Host System by USB cable. DC power by Li-ion Battery.
<b>Power Rating</b>	:	DC 5.0V by USB cable. DC 3.7V by 800mAh Li-ion Battery.
<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.

## SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v05r02.

- (1) Clause 4.3: General SAR test reduction and exclusion guidance

- Sub clause 4.31: Standalone SAR test exclusion considerations

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance  $\leq 5$  mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR}$$
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 7.5.0 \text{ for 10-g SAR}$$

## 2.

## Calculation:

Test separation: 5mm					
Bluetooth Mode (GFSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	3.003	$\pm 0.5$	2.240	0.694	3.0
2.441	3.281	$\pm 0.5$	2.388	0.746	3.0
2.480	3.519	$\pm 0.5$	2.523	0.795	3.0
Bluetooth Mode ( $\pi/4$ -DQPSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	3.553	$\pm 0.5$	2.543	0.788	3.0
2.441	3.844	$\pm 0.5$	2.719	0.850	3.0
2.480	4.083	$\pm 0.5$	2.873	0.905	3.0
Bluetooth Mode (8-DPSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	4.024	$\pm 0.5$	2.834	0.878	3.0
2.441	4.340	$\pm 0.5$	3.048	0.952	3.0
2.480	4.543	$\pm 0.5$	3.194	1.006	3.0

So standalone SAR measurements are not required.