



# RF Exposure Evaluation

## FCC ID: 2AAL7-FM0167W

### 1. Client Information

<b>Applicant</b>	:	FORM ELECTRONICS CO., Ltd
<b>Address</b>	:	4F Bldg E, Junfeng Science&Technology Park, Lezhujiao, Xixiang, Bao'an Dist, Shenzhen, China
<b>Manufacturer</b>	:	FORM ELECTRONICS CO., Ltd
<b>Address</b>	:	4F Bldg E, Junfeng Science&Technology Park, Lezhujiao, Xixiang, Bao'an Dist, Shenzhen, China

### 2. General Description of EUT

<b>EUT Name</b>	:	Wireless Speaker/White Noise Machine	
<b>Model(s) No.</b>	:	FM0167W	
<b>Model Difference</b>	:	----	
<b>Product Description</b>	:	Operation Frequency:	Bluetooth(BR+EDR) V5.2: 2402MHz~2480MHz
		Number of Channel:	79 channels
		Antenna Gain:	1.7dBi PCB Antenna
		Modulation Type:	GFSK(1Mbps) $\pi$ /4-DQPSK(2Mbps) 8-DPSK(3Mbps)
<b>Power Supply</b>	:	USB Input: 5V/1A DC 3.7V 500mAh 1.85Wh Rechargeable Li-ion battery	
<b>Software Version</b>	:	DC45-A4198657	
<b>Hardware Version</b>	:	FM0167W	
<b>Remark:</b> The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.			

**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 v06.

(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:

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

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



**2. Calculation:**

Test separation: 5mm						
Bluetooth Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	1.08	1±1	2	1.585	0.491	3.0
2.441	1.185	1±1	2	1.585	0.495	3.0
2.480	0.779	0±1	1	1.259	0.397	3.0
Bluetooth Mode (Pi/4-DQPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	2.17	2±1	3	1.995	0.618	3.0
2.441	2.124	2±1	3	1.995	0.623	3.0
2.480	1.655	1±1	2	1.585	0.499	3.0
Bluetooth Mode (8-DPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	2.666	2±1	3	1.995	0.618	3.0
2.441	2.662	2±1	3	1.995	0.623	3.0
2.480	2.234	2±1	3	1.995	0.628	3.0

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

-----END OF THE REPORT-----

