

# RF Exposure Evaluation

## FCC ID: 2APC6-CAT

### 1. Client Information

**Applicant** : Aries Manufacturing A division of Boss Tech Products Inc.  
**Address** : 1580 S. Milwaukee Ave. Suite 103, Libertyville, IL 60048, USA  
**Manufacturer** : LTX Electronics Co., Limited.  
**Address** : No.12, 1st Road BeiAn, Huangjiang Town, Dongguan, Guangdong, China

### 2. General Description of EUT

<b>EUT Name</b>	:	Bluetooth Speaker	
<b>Models No.</b>	:	CAT-BT-MINISPK	
<b>Product Description</b>	:	Operation Frequency:	Bluetooth V4.2: 2402MHz~2480MHz
	:	RF Output Power:	GFSK:-0.967dBm(Max) π /4-DQPSK:0.225dBm (Max) BLE:2.311dBm (Max)
	:	Antenna Gain:	2dBi PCB Antenna
<b>Power Supply</b>	:	DC Voltage Supply from USB Port. DC Supply by the Li-ion Battery.	
<b>Power Rating</b>	:	DC 5.0 V from the USB Cable. DC 3.7V by 600mAh Li-ion Battery.	
<b>Software Version</b>	:	V1.0	
<b>Hardware Version</b>	:	V1.2	
<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 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:

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

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{GHz}}}] \leq 7.5.0$  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	-0.967	0±1	1	1.259	0.390	3.0
2.441	-1.088	-1±1	0	1.000	0.312	3.0
2.480	-2.283	-2±1	-1	0.794	0.250	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	0.255	0±1	1	1.259	0.390	3.0
2.441	0.081	0±1	1	1.259	0.393	3.0
2.480	-1.019	-1±1	0	1.000	0.315	3.0
BLE 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	2.311	2±1	3	1.995	0.618	3.0
2.442	1.966	2±1	3	1.995	0.623	3.0
2.480	0.727	1±1	2	1.585	0.499	3.0

So standalone SAR measurements are not required.

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