Shenzhen Toby Technology Co., Ltd.

RF Exposure Evaluation
FCC ID: 2AIZD-X19

1. Client Information

Applicant	:	X-INNOVATION INDUSTRY LIMITED
Address	:	B8, 1st Industrial Park, Xixiang Town, Bao'an District, Shenzhen, China
Manufacturer	:	X-INNOVATION INDUSTRY LIMITED
Address	:	B8, 1st Industrial Park, Xixiang Town, Bao'an District, Shenzhen, China

2. General Description of EUT

EUT Name	:	Mini bluetooth speaker	
Models No.	:	X19	
Model Difference	:	N/A	
Product Description	:	Operation Frequency: Bluetooth 3.0: 2402~2480MHz	
		Number of Channel:	Bluetooth:79 Channels
		Max Peak Output Power:	Bluetooth: -3.558dBm(GFSK)
		Antenna Gain:	0 dBi PCB Antenna
		Modulation Type:	GFSK 1Mbps(1 Mbps) π/4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	:	DC Voltage supplied from Host System by USB cable. DC power by Li-ion Battery.	
Power Rating	:	DC 5.0V by USB cable. DC 3.7V by Li-ion Battery.	
Connecting I/O Port(S)	:	Please refer to the User's Manual	

Note:

More test information about the EUT please refer the RF Test Report.

TB-RF-074-1.0

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≤5 mm are determined by:**
      [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤3.0 for 1-g SAR
      [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤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 (mw)	Calculation Value	Threshold Value
2.402	-5.619	±0.5	0.308	0.095	**3.0**
2.441	-6.348	±0.5	0.260	0.081	**3.0**
2.480	-7.537	±0.5	0.198	0.062	**3.0**
Bluetooth Mode (π /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	-3.987	±0.5	0.448	0.139	3.0
2.441	-4.967	±0.5	0.358	0.112	3.0
2.480	-6.152	±0.5	0.272	0.086	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	-3.558	±0.5	0.495	0.153	3.0
2.441	-4.581	±0.5	0.391	0.122	3.0
2.480	-5.582	±0.5	0.310	0.098	3.0

So standalone SAR measurements are not required.

-----End of Report-----