FCC RF EXPOSURE REPORT

VTECH ELECTRONICS LTD

Microphone 1
Model Number: 2477
Additional Model: 80-247700, 80-247703, 80-247704, 80-247705, 80-247707, 80-247722, 80-247723, 80-2477XX (XX=00~99)

Microphone 2
Model Number: 2478
Additional Model: 80-247800, 80-247803, 80-247804, 80-247805, 80-247807, 80-247822, 80-247823, 80-2478XX (XX=00~99)

FCC ID: G2R-2477

Applicant:	VTECH ELECTRONICS LTD
Address:	23/F, TAI PING INDUSTRIAL CENTRE, BLOCK 1,
	57 TING KOK ROAD, TAI PO, HONG KONG
Prepared By:	EST Technology Co., Ltd.
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China
Tel: 86-769-83081888-808	

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1. Applicable Standards

FCC Part 2(Section 2.1093)

FCC KDB 447498 D04 Interim General RF Exposure Guidance v01

2. Exposure Evaluation of Portable or Mobile Devices

Human exposure to RF emissions from portable devices (47 CFR §2.1093), as defined by the FCC, must be evaluated with respect to the FCC-adopted limits for SAR. Evaluation of mobile devices, as defined by the FCC, may also be performed with respect to SAR limits, but in such cases it is usually simpler and more cost-effective to evaluate compliance with respect to field strength or power density limits. For certain devices that are designed to be used in both mobile and portable configurations similar to those described in 47 CFR §2.1091(d)(4), such as certain desktop phones and wireless modem modules, compliance for mobile configurations is also satisfied when the same device is evaluated for SAR compliance in portable configurations.

$$P_{\text{th}}\,(\text{mW}) = ERP_{20\,\text{cm}}\,(\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases} \quad \text{(B.1)}$$

$$P_{\text{th}}\,(\text{mW}) = \begin{cases} ERP_{20\,\text{cm}}(d/20\ \text{cm})^{x} & d \le 20\ \text{cm} \\ ERP_{20\,\text{cm}} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases} \quad \text{(B.2)}$$

where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\,\text{cm}}\sqrt{f}}\right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20\text{cm}}$ is per Formula (B.1).
The example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
	5	10	15	20	25	30	35	40	45	50
300	39	65	88	110	129	148	166	184	201	217
450	22	44	67	89	112	135	158	180	203	226
835	9	25	44	66	90	116	145	175	207	240
1900	3	12	26	44	66	92	122	157	195	236
2450	3	10	22	38	59	83	111	143	179	219
3600	2	8	18	32	49	71	96	125	158	195
5800	1	6	14	25	40	58	80	106	136	169

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 300 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

3. Evaluation Results

Model: 2477

For 2.4G SRD
Field strength =66.9dBuV/m@3m
P={ $[10^{(66.9/20)}/10^6 *3]^2/30$ }*1000mW = 0.00146mW< 2.72mW

1. Limited= 3060*(0.5/20)^(-$\log_{10}(60/(3060*\sqrt{f}))$ (where f is in GHz);
2. We choose 2.480GHz to calculate limit as higher frequency will have lower limits.

Model: 2478

For 2.4G SRD
Field strength =69.63dBuV/m@3m
P={ $[10^{(69.63/20)}/10^6 *3]^2/30$ }*1000mW =0.00274mW< 2.72mW

3. Limited= 3060*(0.5/20)^(-$\log_{10}(60/(3060*\sqrt{f}))$ (where f is in GHz);
4. We choose 2.480GHz to calculate limit as higher frequency will have lower limits.

End of Test Report