



## RF Exposure Evaluation

### FCC ID: 2A5AV-NK606

#### 1. Client Information

<b>Applicant</b>	:	Shenzhen Shengqi Technology Co., Ltd.
<b>Address</b>	:	B3-F1, Area B, Hekan Industrial Zone, No.41 Wuhe South Rd., Bantian St., Longgang Shenzhen, Guangdong China
<b>Manufacturer</b>	:	Shenzhen Shengqi Technology Co., Ltd.
<b>Address</b>	:	B3-F1, Area B, Hekan Industrial Zone, No.41 Wuhe South Rd., Bantian St., Longgang Shenzhen, Guangdong China

#### 2. General Description of EUT

<b>EUT Name</b>	:	2.4G Wireless Numeric Keypad
<b>Model(s) No.</b>	:	NK606
<b>Model Different</b>	:	---
<b>Sample ID</b>	:	202202-0250-1-1# & 202202-0250-1-2#
<b>Product Description</b>	Operation Frequency:	2.4G: 2405MHz~2470MHz
	Number of Channel:	3 channels
	Antenna Gain:	0dBi PCB Antenna
	Modulation Type:	ASK
	Bit Rate of Transmitter:	2Mbps
<b>Power Supply</b>	:	Input: DC 5V DC 3.7V by 250mAh Rechargeable Li-ion battery
<b>Software Version</b>	:	N/A
<b>Hardware Version</b>	:	N/A
<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.

## The RF Exposure Evaluation for FCC:

### SAR Test Exclusion Calculations

FCC: According to 447498 D04 Interim General RF Exposure Guidance v01.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as **Formula (B.2)**, applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold  $P_{th}$  (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive).  $P_{th}$  is given by **Formula (B.2)**.

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

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

**Calculation:**

Test separation: 5mm					
2.4G Mode					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mW)	Limit P <sub>th</sub> (mW)
2.405	-9.881	-9±1	-8	0.158	3
2.430	-10.983	-10±1	-9	0.126	3
2.470	-10.95	-10±1	-9	0.126	3

**Conclusion:**

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.

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