



RF EXPOSURE EVALUATION

FCC ID: 2A5EQ-2401KB1

Product Name	:	Mechanical Keyboard
Model Name	:	NB-1041 Pro, NB-841 Pro
Model difference	:	Different model names
Bluetooth Version	:	BT 5.0 BDR and BLE
Operating frequency	:	2402-2480MHz(BT) 2402-2479MHz(2.4G)
Numbers of Channel	:	40 channels For DTS 79 channels for BDR 78 channels for 2.4G SRD
Antenna Type	:	PCB Antenna
Antenna Gain	:	1.58dBi
Type of Modulation	:	GFSK
Power supply	:	Input: DC 5V 300mA Li-ion Battery : 4541113 Voltage: 3.7V Capacity:3000mAh
Hardware Version	:	V03
Software Version	:	V103



Standard Requirement

According to § 15.247(i) and § 1.1307b(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See KDB 447498 D01 General RF Exposure Guidance v06, section 4. 3. 1.

The 1-g and 10-g SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances $\leq 50\text{mm}$ are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g SAR extremity SAR, where}$$

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison.

The test exclusions are applicable only when the minimum test separation distance is $\leq 50\text{mm}$ and for transmission frequencies between 100MHz and 6GHz. When the minimum test separation distance is $< 5\text{mm}$, a distance of 5mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.



RF Output power

Freq. (MHz)	Field strength(max)(dBuV/m)	EIRP (max) (dBm)
2446	94.44	-0.76
Note: $EIRP = E - 104.8 + 20 \log D$, Where E is the electric field strength in dB μ V/m. EIRP is the equivalent isotropically radiated power in dBm. d is the specified measurement distance in m. where $D=3$, $EIRP = E - 95.2$.		

Test mode	Channel (MHz)	Maximum output power (dBm)	Tune up tolerance (dBm)	Max Tune Up Power (mW)	Distance(mm)	Calculation results	Limit	Result
BT	2480	9.18	8.5 ± 1	8.912509	5	2.807087	3	Pass
SRD(2.4G)	2446	-0.76	-0.76 ± 1	1.056818	5	0.330566	3	Pass

According to KDB 447498, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required.

Signature

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Manager

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