

RF Exposure Evaluation Report

Product	: Portable Electronic Piano
Trade mark	: N/A
Model/Type reference	: PH88C, PH61C, PH88, PH61, PH88Y, PH61Y, PH88X, PH61X, PJ88, PZ88, PZ61, PZ61M, PZ49
Serial Number	: N/A
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Date of Issue	: Nov. 23, 2020
Test Standards	: 47 CFR Part 1.1307 47 CFR Part 2.1093 KDB447498D01 General RF Exposure Guidance v06
Test result	: PASS

Prepared for:

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2 Version

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4 General Information

4.1 Client Information

Applicant:	Shenzhen Konix Technology Co., Ltd.
Address of Applicant:	Building 2, YuFeng Industrial Area, Shangfen Community, Minzhi Street, Longhua, Shenzhen
Manufacturer:	Shenzhen Konix Technology Co., Ltd.
Address of Manufacturer:	Building 2, YuFeng Industrial Area, Shangfen Community, Minzhi Street, Longhua, Shenzhen
Factory:	Guangdong Konix Technology Co., Ltd.
Address of Factory:	Room 401, Building 3, No. 76 Qingxi Baijia Road, Qingxi Town, Dongguan, Guangdong

4.2 General Description of EUT

Product Name:	Portable Electronic Piano
Model No.(EUT):	PH88C, PH61C, PH88, PH61, PH88Y, PH61Y, PH88X, PH61X, PJ88, PZ88, PZ61, PZ61M, PZ49
Test Model No.:	PH88C
Trade Mark:	N/A
EUT Supports Radios application:	2402MHz to 2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz
Modulation Type:	GFSK, $\pi/4$ DQPSK
Test Power Grade:	Default
Test Software of EUT:	FCC Assist
Antenna Type:	PCB Antenna
Antenna Gain:	-0.58 dBi
Power Supply:	DC 5V
Max Conducted Peak Output Power:	BT Classic: 3.055dBm; BLE: 2.434dBm The Max Conducted Peak Output Power data refer to the report EED32M00296701, EED32M00296702
Sample Received Date:	Sep. 18, 2020
Sample tested Date:	Sep. 18, 2020 to Oct. 21, 2020
Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified. Model No.: PH88C, PH61C, PH88, PH61, PH88Y, PH61Y, PH88X, PH61X, PJ88, PZ88, PZ61, PZ61M, PZ49 Only the model PH88C was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance, pack and model name.	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 SAR Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

Limits

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g 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 calculation¹⁷

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 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

5.1.2 EUT RF Exposure

The tune-up power is 4 dBm +/- 2dB, therefore the highest tune-up power is

3.055 (2.02 mW) @ 2480 MHz

When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

So,

$$(2.02 / 5\text{mm}) * (2.480\text{GHz}^{0.5}) = 0.6$$

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] *

$$[\sqrt{f(\text{GHz})}] = 0.6 < 3.0$$

Therefore, standalone SAR measurements are not required for both head and body



PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32M00296701 for EUT external and internal photos.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***