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RF Exposure Evaluation Report

Report No.: CQASZ20210500638E-02
Applicant: Wanaka Inc.
Address of Applicant: 857, No.1, Suzhou Street, Haidian District, Beijing, China.
Equipment Under Test (EUT):
EUT Name: The ONE PIANO
Model No.: Play
Brand Name: THE ONE
FCC ID: 2A2GD-GC861601
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2021-05-12
Date of Test: 2021-05-12 to 2021-05-25
Date of Issue: 2021-06-17
Test Result: **PASS***

*In the configuration tested, the EUT complied with the standards specified above

Tested By: Lewis Zhou
(Lewis Zhou)

Reviewed By: Timo lei
(Timo lei)

Approved By: Sheek Luo
(Sheek Luo)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20210500638E-02	Rev.01	Initial report	2021-06-17

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3 General Information

3.1 Client Information

Applicant:	Wanaka Inc.
Address of Applicant:	857, No.1, Suzhou Street, Haidian District, Beijing, China.
Manufacturer:	Wanaka Inc.
Address of Manufacturer:	857, No.1, Suzhou Street, Haidian District, Beijing, China.
Factory:	Medeli Musical Instrument (Zhu Hai) Co., Ltd
Address of Factory:	Medeli Industrial Park, 2 Shuang Lin East Road, Dalinshan Area, Liangang Industrial Zone, Jinwan District, Zhuhai, China.

3.2 General Description of EUT

Product Name:	The ONE PIANO
Model No.:	Play
Trade Mark:	THE ONE
Hardware Version:	V01
Software Version:	V1.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V5.0
Modulation Type:	GFSK
Transfer Rate:	1Mbps
Number of Channel:	40
Sample Type:	☐ Mobile ☐ Portable ☒ Fix Location
Test Software of EUT:	FCC-ZS110A-1.04 (manufacturer declare)
Antenna Type:	PCB Antenna
Antenna Gain:	1.5dBi
EUT Power Supply:	DC 15V

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

4.3.1. 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.

4.1.2 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:

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

$f(\text{GHz})$ 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

4.1.3 EUT RF Exposure

1) For BLE

Measurement Data

GFSK mode(1Mbps)				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-0.67	-1±1	0	1
Middle(2440MHz)	0.11	0±1	1	1.259
Highest(2480MHz)	0.19	0±1	1	1.259

Worst case: GFSK mode(1Mbps)						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-0.67	-0.5±1	0.5	1	0.252	3.0
Middle (2440MHz)	0.11	0±1	1	1.259	0.393	
Highest (2480MHz)	0.19	0±1	1	1.259	0.396	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20210500638E-01