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RF Exposure Evaluation Report

Report No.: CQASZ20211001819E-03
Applicant: Critical Tattoo Supply, LLC
Address of Applicant: 1020 S. Rock Blvd. Suite D , Reno, NV. 89502, USA
Equipment Under Test (EUT):
EUT Name: Connect Footswitch
Model No.: CTC-CFS-BLK
Test Model No.: CTC-CFS-BLK
Brand Name: N/A
FCC ID: 2A3QR CTC-CFS-BLK
Standards: 47 CFR Part 1.1307
47 CFR Part 2.1093
KDB447498D01 General RF Exposure Guidance v06
Date of Receipt: 2021-10-22
Date of Test: 2021-10-22 to 2021-11-03
Date of Issue: 2021-11-17
Test Result: PASS*

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

Tested By: Timo Lei
(Timo Lei)

Reviewed By: Rock Huang
(Rock Huang)

Approved By: Jack Ai
(Jack Ai)



1 Version

Revision History Of Report

Report No.	Version	Description	Issue Date
CQASZ20211001819E-03	Rev.01	Initial report	2021-11-17

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3 General Information

3.1 Client Information

Applicant:	Critical Tattoo Supply, LLC
Address of Applicant:	1020 S. Rock Blvd. Suite D , Reno, NV. 89502, USA
Manufacturer:	Dongguan Kunteng Hardware Technology Co., LTD
Address of Manufacturer:	Room 403, No.3 longze Road, Chang an Town, Dongguan City, Guangdong
Factory:	Dongguan Kunteng Hardware Technology Co., LTD
Address of Factory:	Room 403, No.3 longze Road, Chang an Town, Dongguan City, Guangdong

3.2 General Description of EUT

Product Name:	Connect Footswitch
Model No.:	CTC-CFS-BLK
Test Model No.:	CTC-CFS-BLK
Trade Mark:	N/A
Software Version:	V1.0.0
Hardware Version:	V1.0.0
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	BT5.1
Modulation Type:	GFSK
Transfer Rate:	1Mbps, 2Mbps
Number of Channel:	40
Product Type:	☐ Mobile ☒ Portable ☐ Fix Location
Test Software of EUT:	CMOSTEK
Antenna Type:	PCB antenna
Antenna Gain:	1.5dBi
EUT Power Supply:	DC 3V, Battery: AA *2

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 1M

Measurement Data

GFSK 1Mbps mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.39	-1.5±1	-0.5	0.891
Middle(2440MHz)	-0.79	-0.5±1	0	1.000
Highest(2480MHz)	-1.03	-1.0±1	-0.5	0.891

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20211001819E-01

2) For BLE 2M

Measurement Data

GFSK 2Mbps mode				
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power	
			(dBm)	(mW)
Lowest(2402MHz)	-1.33	-1.5±1	-0.5	0.891
Middle(2440MHz)	-0.75	-0.5±1	0	1.000
Highest(2480MHz)	-0.98	-1.0±1	-0.5	0.891

Remark: The Max Conducted Peak Output Power data refer to report Report No.: CQASZ20211001819E-02

Worst case: GFSK 2Mbps						
Channel	Maximum Peak Conducted Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune- up Power		Calculated value	Exclusion threshold
			(dBm)	(mW)		
Lowest (2402MHz)	-1.33	-1.5±1	-0.5	0.891	0.276	3.0
Middle (2440MHz)	-0.75	-0.5±1	0	1.000	0.312	
Highest (2480MHz)	-0.98	-1.0±1	-0.5	0.891	0.281	
Conclusion: the calculated value ≤3.0, SAR is exempted.						

--THE END--