Shenzhen Most Technology Service Co., Ltd.
East A, 1 floor of New Aolin Factory buiding, Langshan Erlu, North District,
Hi-tech Industry Park, Nanshan,Shenzhen,Guangdong,China

RF Exposure Evaluation Report

Report Reference No......:	**MTEB24080209-H**
FCC ID..... **:**	**2A5EB-51KBTR**
Compiled by (position+printed name+signature)..:	File administrators Alisa Luo
Supervised by (position+printed name+signature)..:	Test Engineer Sunny Deng
Approved by (position+printed name+signature)..:	Manager Yvette Zhou
Date of issue.....:	**August 15,2024**
Representative Laboratory Name .:	**Shenzhen Most Technology Service Co., Ltd.**
Address .....:	No.5, 2nd Langshan Road, North District, Hi-tech Industrial Park, Nanshan, Shenzhen, Guangdong, China.
Applicant's name.....:	**Stillwater Designs & Audio, INC.**
Address .....:	3100 N Husband St. Stillwater OK 74075 USA
Test specification/ Standard .....**:**	**47 CFR Part 1.1307;47 CFR Part 1.1310** **KDB447498D01 General RF Exposure Guidance v06**
TRF Originator.....:	Shenzhen Most Technology Service Co., Ltd.

Test item description .....:	POWERSPORTS BLUETOOTH RECEIVER
Trade Mark .....:	KICKER
Model/Type reference.....:	51KBTR
Listed Models .....:	N/A
Modulation Type .....:	GFSK, π/4DQPSK, 8DPSK
Operation Frequency.....:	2402MHz to 2480MHz
Hardware Version.....	1121-51KBTR-MB04
Software Version	VER 2.
Rating .....:	DC 12V by DC Source
Result.....:	**PASS**

T E S T R E P O R T

Equipment under Test	:	POWERSPORTS BLUETOOTH RECEIVER
Model /Type	:	51KBTR
Listed Models	:	N/A
Remark 1		N/A
Applicant	:	**Stillwater Designs & Audio, INC.**
Address	:	3100 N Husband St. Stillwater OK 74075 USA
Manufacturer	:	**Eastern Partner Limited**
Address	:	Room 1413, ICC Tower ,Fuhau San Road,Futian CBD,Shenzhen 518048,China

Test Result:	**PASS**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

1. Revision History

Revision	Issue Date	Revisions	Revised By
00	2024.08.15	Initial Issue	Alisa Luo

2. SAR Evaluation

2.1 RF Exposure Compliance Requirement

2.1.1 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.

2.1.2 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3–3.0	614	1.63	*(100)	6
3.0–30	1842/f	4.89/f	*($900/f^2$)	6
30–300	61.4	0.163	1.0	6
300–1500	.....	.....	f/300	6
1500–100,000	.....	.....	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*($180/f^2$)	30
30–300	27.5	0.073	0.2	30
300–1500	.....	.....	f/1500	30
1500–100,000	.....	.....	1.0	30

F= Frequency in MHz
Friis Formula
Friis transmission formula: Pd = (Pout*G)/(4* Pi * R 2) Where
Pd = power density in mW/cm2
Pout = output power to antenna in mW
G = gain of antenna in linear scale
Pi = 3.1416

R = distance between observation point and center of the radiator in cm
Pd id the limit of MPE, 1 mW/cm2 . If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.1.3 EUT RF Exposure

BT classic

GFSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2402MHz)	-1.857	-1.857±1	-0.857
Middle(2441MHz)	-2.427	-2.427±1	-1.427
Highest(2480MHz)	-3.037	-3.037±1	-2.037

π /4DQPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2402MHz)	-1.022	-1.022±1	-0.022
Middle(2441MHz)	-1.528	-1.528±1	-0.528
Highest(2480MHz)	-2.152	-2.152±1	-1.152

8DPSK			
Test channel	Peak Output Power (dBm)	Tune up tolerance (dBm)	Maximum tune-up Power (dBm)
Lowest(2402MHz)	-0.631	-0.631±1	0.369
Middle(2441MHz)	-1.167	-1.167±1	-0.167
Highest(2480MHz)	-1.771	-1.771±1	-0.771

Worst case: 8DPSK						
Channel	Maximum tune-up Power (dBm)	Maximum tune-up Power (MW)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm2)	Limit	Result
Lowest(2402MHz)	0.369	1.09	0	0.00022	1.0	Pass

Note: 1) Refer to report MTEB24080209-R for EUT test Max Conducted average Output Power value.
Note: 2) Pd = (Pout*G)/(4* Pi * R2)=(1.09*1)/(4*3.1416*202)=0.00022
Note: 3)EUT's Bluetooth module is more than 20cm away from the human body.

.....THE END OF REPORT.....