MPE Test Report

Report No.:	MTi211206004-09E3
Date of issue:	Apr. 14, 2022
Applicant:	Shenzhen Gudsen Technology Co., LTD
Product name:	R16 Direct Drive Wheel Base
Model(s):	R16, R21, R9, D05, D06, D07
FCC ID:	2AMJR-R1602

Shenzhen Microtest Co., Ltd.

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Table of Contents

1 RF EXPOSURE EVALUATION 5

1.1 LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE) 5
1.2 MEASUREMENT RESULT 6

TEST RESULT CERTIFICATION	
Applicant's name.....	Shenzhen Gudsen Technology Co., LTD
Address.....	Room 1903-1904, Building 3, Nanshan Zhiyuan Chongwen Park, No. 3370 Liuxian Avenue, Nanshan District, Shenzhen
Manufacturer's Name	Shenzhen Gudsen Technology Co., LTD
Address.....	Room 1903-1904, Building 3, Nanshan Zhiyuan Chongwen Park, No. 3370 Liuxian Avenue, Nanshan District, Shenzhen
Product description	
Product name.....	R16 Direct Drive Wheel Base
Trademark	MOZA
Model Name	R16
Serial Model.....	R21, R9, D05, D06, D07
Standards.....	N/A
Test procedure	KDB 447498 D01 v06
Date of Test	
Date (s) of performance of tests… :	2021-12-28 ~2022-04-14
Test Result.....:	Pass
This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.	

Testing Engineer : 

(Danny Xu)

Technical Manager : 

(Leon Chen)

Authorized Signatory : 

(Tom Xue)

1 RF EXPOSURE EVALUATION

According to FCC 1.1310: 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 §1.1307(b)

1.1 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 Exposure				
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
300-1,500			f/300	6
1,500-100,000			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
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

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= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1415926

R= distance between observation point and center of the radiator in cm(20cm)

Pd the limit of MPE, 1mW/cm2. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

1.2 Measurement Result

BLE:

Operation Frequency: BLE GFSK: 2402-2480MHz

Power density limited: 1mW/ cm^2

Antenna Type: BLE Antenna: PCB Antenna;
BLE antenna gain: 0dBi

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(0/10)=1.00

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	-4.73	(-4)±1	-3	0.501	0	1.00	0.0001	1
2440		-2.36	(-3)±1	-2	0.631	0	1.00	0.0001	1
2480		-2.24	(-3)±1	-2	0.631	0	1.00	0.0001	1

Conclusion:

For the max result: 0.0001≤ 1.0 for 1g SAR, No SAR is required.

----END OF REPORT----