RF EXPOSURE REPORT

Report No.: Q191022S004-FCC-H

Supersede Report No.: N/A

Applicant	Medtrum Technologies Inc
Product Name	Transmitter
Model No.	MD1026
Serial No.	N/A
Test Standard	FCC 2.1093
Test Date	Nov. 20 to Dec. 26, 2019
Issue Date	Feb. 18, 2020
Test Result	☑ Pass ☐ Fail
Equipment complied with the specification	☑
Equipment did not comply with the specification	☐
Aaron Liang	David Huang
Aaron Liang Test Engineer	David Huang Checked By
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only	

Issued by:

BUREAU VERITAS (SHENZHEN) CONSUMER PRODUCTS SERVICE CO., LTD

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Laboratories Introduction

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Accreditations for Conformity Assessment

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety

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1. Report Revision History

Report No.	Report Version	Description	Issue Date
Q191022S004-FCC-H	NONE	Original	Feb. 18, 2020

2. Customer information

Applicant Name	Medtrum Technologies Inc
Applicant Add	7F， Building 8, No.200 Niudun Road, Shanghai 201203, China
Manufacturer	Medtrum Technologies Inc
Manufacturer Add	7F， Building 8, No.200 Niudun Road, Shanghai 201203, China

3. Test site information

Lab performing tests	BUREAU VERITAS (SHENZHEN) CONSUMER PRODUCTS SERVICE CO., LTD
Lab Address	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China 518108
FCC Test Site No.	535293
IC Test Site No.	4842E-1
Test Software	EZ-EMC(ver.Icp-03A1)

4. Equipment under Test (EUT) Information

Description of EUT:	Transmitter
Main Model:	MD1026
Serial Model:	N/A
Date EUT received:	Nov. 19, 2019
Test Date(s):	Nov. 20 to Dec. 26, 2019
Antenna Gain:	BLE: 1.6dBi
Antenna Type:	Ceramic antenna
Type of Modulation:	BLE: GFSK
RF Operating Frequency (ies):	BLE: 2402-2480 MHz
Number of Channels:	BLE: 40CH
Port:	Please refer to user's manual
Input Power:	Battery: DC 3.7V
Trade Name :	Medtrum
FCC ID:	2AARU-MD1026

Mark: The Product is a BLE device, that can connect via BLE to either a smartphone or a HUB to transfer the button clicks upon pushed.

5. FCC §2.1093 - Radiofrequency radiation exposure evaluation: portable devices.

5.1 RF Exposure

Standard Requirement:

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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:

[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [$\sqrt{f_{(GHz)}}$] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,[16] where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation[17]
- 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.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

result = $P\sqrt{F}/D$

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm

5.2 Test Result

BLE Mode:

Modulation	CH	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	3.00	2.3±1	3.3	2.138	0.663	3
	Mid	2440	2.42	2.3±1	3.3	2.138	0.668	3
	High	2480	1.46	2.3±1	3.3	2.138	0.673	3

Result: Compliance

No SAR measurement is required.