

EMF TEST REPORT

Test Report No. : OT-21D-RWD-047

Reception No. : 2112005204

Applicant : Tianjin Empecs Medical Device Co., Ltd.

Address : No.35 and 37, Yingcheng Street, Hangu, Binhai New Area, Tianjin, China

Manufacturer : Tianjin Empecs Medical Device Co., Ltd.

Address : No.35 and 37, Yingcheng Street, Hangu, Binhai New Area, Tianjin, China

Type of Equipment : Blood Beta-Ketone Monitoring System

FCC ID. : 2AFE8K21BT

Model Name : KT21 BT

Multiple Model Name : N/A

Serial number : N/A

Total page of Report : 8 pages (including this page)

Date of Incoming : December 10, 2021

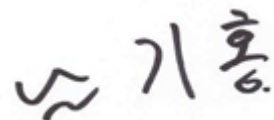
Date of issue : December 22, 2021

SUMMARY

The equipment complies with the regulation; **FCC PART 15 SUBPART C Section 15.247**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.



Tested by
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ONETECH Corp.

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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-21D-RWD-047	December 22, 2021	Initial Release	All

1. VERIFICATION OF COMPLIANCE

Applicant : Tianjin Empecs Medical Device Co., Ltd.
Address : No.35 and 37, Yingcheng Street, Hangu, Binhai New Area, Tianjin, China
Contact Person : Dongeon Cho / Senior Research Engineer
Telephone No. : 82(0)70-7124-0476
FCC ID : 2AFE8K21BT
Model Name : KT21 BT
Brand Name : Medisign
Serial Number : N/A
Date : December 22, 2021

EQUIPMENT CLASS	DSS – PART 15 SPREAD SPECTRUM TRANSMITTER
E.U.T. DESCRIPTION	Blood Beta-Ketone Monitoring System
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	ANSI C63.10: 2020
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
EQUIPMENT WILL BE OPERATED UNDER FCC RULES PART(S)	FCC PART 15 SUBPART C Section 15.247 KDB 558074 D01 15.247 Meas Guidance v05r02
Modifications on the Equipment to Achieve Compliance	None
Final Test was Conducted On	3 m, Semi Anechoic Chamber

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. GENERAL INFORMATION

2.1 Product Description

The Tianjin Empecs Medical Device Co., Ltd., Model KT21 BT (referred to as the EUT in this report) is a Blood Beta-Ketone Monitoring System. The product specification described herein was obtained from product data sheet or user's manual.

Device Type	Blood Beta-Ketone Monitoring System
Operating Frequency	2 402 MHz ~ 2 480 MHz
RF Output Power	-1.59 dBm
Modulation Type	GFSK
Antenna Type	PCB Antenna
Antenna Gain	-4.34 dBi
Rated Supply Voltage	DC 3.0 V
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	32 MHz

2.2 Alternative type(s)/model(s); also covered by this test report.

-, None

3. EUT MODIFICATIONS

-, None

4. RF EXPOSURE EVALUATION

4.1 RF Exposure Calculation

According to the FCC rule §1.1310, the limit for General Population/Uncontrolled exposure is 1 mW/cm² for the device operating 1 500 ~ 100 000 MHz.

4.2 EUT Description

Kind of EUT	Blood Beta-Ketone Monitoring System
Device Category	☒ Portable (< 20 cm separation) ☐ Mobile (> 20 cm separation) ☐ Others
Exposure Evaluation Applied	☐ MPE ☐ SAR ☒ SAR Test Exclusion Evaluation

4.3 Test Result of SAR Exclusion for Devices

According to the procedure, KDB 447498 D01, the standalone SAR test exclusion threshold is

$$[(\text{Max. Power of channel, including tune-up tolerance, mW})/(\text{Min. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] < 3$$

$$= (0.78/5) \times \sqrt{2.402} = 0.24$$

Conclusion: The SAR test exclusion threshold is less than 3, so the device meets the RF Exposure Requirement and excluded SAR Test.

Mode	Frequency (MHz)	Target Power W/tolerance (dBm)	Max tune up power (dBm)	Max tune up power (mW)	Separation distance (mm)	RF exposure
BLE	2 402	-1.59 ± 0.5	-1.09	0.78	5	0.24