

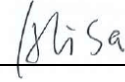
TEST REPORT

Report Reference No......: **MTEB22120190-H**

FCC ID.....: **XRQEMTX**

Compiled by

(position+printed name+signature)..: File administrators Alisa Luo



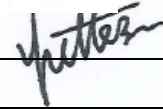
Supervised by

(position+printed name+signature)..: Test Engineer Sunny Deng



Approved by

(position+printed name+signature)..: Manager Yvette Zhou



Date of issue.....: **December 27, 2022**

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.....: **Efergy Technologies Limited**

Address: Suite 1108-1109, Junction Building, 3820 Nanhuan Road, Binjiang
District, Hangzhou, Zhejiang, China

Test specification/ Standard: **47 CFR Part 1.1307**

47 CFR Part 2.1093

TRF Originator.....: Shenzhen Most Technology Service Co., Ltd.

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Test item description: Black Transmitter

Trade Mark: Efergy

Model/Type reference.....: EMTX

Series model.....: E-Max TX, EMax TX

Modulation Type: FSK

Operation Frequency.....: 433.54MHz

Hardware version: BCS302ARF-V4 2022.07.31

Software version: 1.0

Rating: DC4.5V(by Battery)

Result.....: **PASS**

TEST REPORT

Equipment under Test : Black Transmitter

Model /Type : EMTX, E-Max TX, EMax TX

Remark: Only the model names are different

Applicant : **Efergy Technologies Limited**

Address : Suite 1108-1109, Junction Building, 3820 Nanhuan Road, Binjiang District, Hangzhou, Zhejiang, China

Manufacturer : **Fujian Baldr Technology Co.,Ltd**

Address : 3-4F, Building 2, No 71 Yangqi Rd, Cangshan District, Fuzhou, China

Test Result:	PASS
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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.

Contents**1. Revision History**

Revision	Issue Date	Revisions	Revised By
00	2022.12.27	Initial Issue	Alisa Luo

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

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:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 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

2.1.3 EUT RF Exposure

$$EIRP = PT * GT = (E \times D)^2 / 30$$

where:

PT = transmitter output power in watts,

GT = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, $10^{(dB\mu V/m)/20} / 10^6$,

D = measurement distance in meters (m)---3m,

$$So PT = (E \times D)^2 / 30 / GT$$

The worst case (refer to report MTWG22020064) is below:

Antenna polarization: Horizontal		
Frequency (MHz)	Level (dBuV/m)	Polarization
433.54	78.94	Peak
433.54	70.11	Average

Antenna polarization: Vertical		
Frequency (MHz)	Level (dBuV/m)	Polarization
433.54	78.37	Peak
433.54	69.54	Average

For 433.87MHz wireless:

Field strength=78.94 dBuV/m

Ant gain:0dBi;so Ant numeric gain=1.0

$$EIRP = PT * GT = (E \times D)^2 / 30 = (10^{(dB\mu V/m)/20} / 10^6 * 3)^2 / 30 = 0.00003W$$

$$So PT = EIRP / GT = 0.00003W / 1 * 1000 = 0.03mW$$

$$So (0.03mW / 5mm) * \sqrt{0.43354GHz} = 0.004$$

exclusion=0.004<3.0 for 1-g SAR

So the SAR report is not required.