



## Test Report

Prepared for: Tehama Wireless Design Group Inc.

**Model: RPT TW223**

**Description: Repeater**

**Serial Number: N/A**

**FCC ID: TS4-TW223**

**To**

**FCC Part 1.1310**

**Date of Issue: April 8, 2019**

**On the behalf of the applicant:** Tehama Wireless Design Group Inc.  
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**Poona Saber**  
Project Test Engineer

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### Test Report Revision History

<b>Revision</b>	<b>Date</b>	<b>Revised By</b>	<b>Reason for Revision</b>
1.0	March 21, 2019	Poona Saber	Original Document



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**FCC Site Reg. #349717**

**IC Site Reg. #2044A-2**

### Non-accredited tests contained in this report:

N/A

### EUT Description

**Model:** RPT TW223

**Description:** Transceiver

**Firmware:** N/A

**Software:** N/A

**Serial Number:** N/A

**Additional Information:** TW-223 unit is a 902-928 MHz diversity transceiver consisting of a single PCB with two identical RFIC transceivers each with a PCB trace whip antenna both controlled by a common integrated microprocessor.

There are 3 model numbers variants depending on:

1. Power supplies  
The TW-195A is line powered by an external 5V AC/DC transformer  
Both TW-191S and TW-195S are powered by the combination of a 10 W solar panel and 2 pack rechargeable lithium batteries 7.2 V 6 Ah.
2. RF modes:  
Both TW-195A and TW-195S are using a combination of FHSS Lora and DTS LoraWan modes.  
The TW-191S uses the FSK mode.



**Note:** The highest radiated power, ERIP out of the three modes of FSK, FHSS and DTS is used for the calculation of MPE below.

### **MPE Evaluation**

This is a mobile device used in Uncontrolled Exposure environment.

**Limits Uncontrolled Exposure**  
**47 CFR 1.1310**  
**Table 1, (B)**

0.3-1.234 MHz:	Limit [mW/cm <sup>2</sup> ] = 100
1.34-30 MHz:	Limit [mW/cm <sup>2</sup> ] = (180/f <sup>2</sup> )
30-300 MHz:	Limit [mW/cm <sup>2</sup> ] = 0.2
300-1500 MHz:	Limit [mW/cm <sup>2</sup> ] = f/1500
1500-100,000 MHz	Limit [mW/cm <sup>2</sup> ] = 1.0

### **Test Data**

Test Frequency, MHz	924
Power, Radiated EIRP, mW (P*G)	167.1
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mw/cm <sup>2</sup>

Power Density (S) = 0.033
Limit = (from above table) = 0.616

**Since the Power density is lower than the limit at the distance of 20 cm Unit shall be installed at the minimum distance of 20 cm from human body at all time.**

END OF TEST REPORT