



FCC ID.: XEG-MZ123BT  
Report No.: T190716N04-MF

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Rev.: 01

**IEEE C95.1  
KDB 447498 D03  
47 C.F.R. Part 1, Subpart I, Section 1.1310  
47 C.F.R. Part 2, Subpart J, Section 2.1091**

## **RF EXPOSURE REPORT**

**For**

**INSTALLATION MIXER**

**Model: MZ-123BT**

**Data Applies To: N/A**

**Trade Name: TASCAM**

*Issued to*

**TEAC CORPORATION  
1-47 Ochiai, Tama-shi, Tokyo 206-8530, Japan**

*Issued By*

**Compliance Certification Services Inc.  
No.11, Wugong 6th Rd., Wugu Dist.,  
New Taipei City 24891, Taiwan. (R.O.C.)**

**Issued Date: September 19, 2019**

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.  
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部分複製。

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### REVISION HISTORY

| Rev. | Issue Date         | Revisions                     | Effect Page | Revised By  |
|------|--------------------|-------------------------------|-------------|-------------|
| 00   | August 27, 2019    | Initial Issue                 | ALL         | Angel Cheng |
| 01   | September 19, 2019 | See the following note rev.01 | ALL         | Angel Cheng |

**Note:**

- ※ Rev.00 Issue Date: August 27, 2019  
Original Report
- ※ Rev.01 Issue Date: September 19, 2019  
Revise EUT Specification.



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## 1. TEST RESULT CERTIFICATION

### We hereby certify that:

The equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirement of the applicable standards. The test record, data evaluation and Equipment under Test (EUT) configurations represented herein are true and accurate accounts of the measurement of the sample's RF characteristics under the conditions specified in this report.

| APPLICABLE STANDARDS   |                         |
|--|-------------------------|
| STANDARD   | TEST RESULT             |
| IEEE C95.1 2005<br>KDB 447498 D03<br>47 C.F.R. Part 1, Subpart I, Section 1.1310<br>47 C.F.R. Part 2, Subpart J, Section 2.1091                      | No non-compliance noted |
| Statements of Conformity   |                         |
| Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty. |                         |

Approved by:




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Kevin Tsai  
Deputy Manager  
Compliance Certification Services Inc.

Reporter:




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Angel Cheng  
Report coordinator  
Compliance Certification Services Inc.

## 2. LIMIT

According to §15.247(i), 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 levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

## 3. EUT SPECIFICATION

|                                     |  |               |                            |
|-------------------------------------|--|---------------|----------------------------|
| <b>EUT</b>                          | INSTALLATION MIXER   |               |                            |
| <b>Model</b>                        | MZ-123BT   |               |                            |
| <b>Brand</b>                        | TASCAM   |               |                            |
| <b>RF Module</b>                    | BRITO  | <b>Model:</b> | MD-BLT-BTMC6R24            |
| <b>Frequency band (Operating)</b>   | <input type="checkbox"/> 802.11b/g/n HT20: 2412MHz ~ 2462MHz<br>802.11n HT40: 2422MHz ~ 2452MHz<br><input checked="" type="checkbox"/> Others 2402MHz ~ 2480MHz (BT3.0 BT 4.0)                   |               |                            |
| <b>Device category</b>              | <input type="checkbox"/> Portable (<20cm separation)<br><input checked="" type="checkbox"/> Mobile (>20cm separation)<br><input type="checkbox"/> Others   |               |                            |
| <b>Exposure classification</b>      | <input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> )<br><input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1.65mW/cm <sup>2</sup> ) |               |                            |
| <b>Antenna Specification</b>        | Multilayer Chip Antenna / Gain:  | 2.0 dBi       | (Numeric gain: 1.58) worst |
| <b>Maximum Output power</b>         | GFSK:  | 7.01 dBm      | (5.026 mW)                 |
|                                     | 8-DPSK   | 5.35 dBm      | (3.425 mW)                 |
|                                     | GFSK(4.2)  | 8.40 dBm      | (6.918 mW)                 |
| <b>Maximum Average output power</b> | GFSK:  | 6.93 dBm      | (4.931 mW)                 |
|                                     | 8-DPSK   | 2.42 dBm      | (1.745 mW)                 |
|                                     | GFSK(4.2)  | 7.82 dBm      | (6.053 mW)                 |
| <b>Maximum Tune up Power</b>        | GFSK:  | 7.00 dBm      | (5.012 mW)                 |
|                                     | 8-DPSK:  | 2.50 dBm      | (1.778 mW)                 |
|                                     | GFSK(4.2)  | 8.00 dBm      | (6.310 mW)                 |
| <b>Evaluation applied</b>           | <input checked="" type="checkbox"/> MPE Evaluation*<br><input type="checkbox"/> SAR Evaluation<br><input type="checkbox"/> N/A   |               |                            |
| <b>Reported Date</b>                | August 27, 2019  |               |                            |

## 4. TEST RESULTS

**No non-compliance noted.**

### Calculation

Given  $E = \frac{\sqrt{30 \times P \times G}}{d}$  &  $S = \frac{E^2}{377}$

Where  $E$  = Field strength in Volts / meter

$P$  = Power in Watts

$G$  = Numeric antenna gain

$d$  = Distance in meters

$S$  = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where  $d$  = Distance in cm

$P$  = Power in mW

$G$  = Numeric antenna gain

$S$  = Power density in mW / cm<sup>2</sup>

## 5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using  $d = 20$  cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where  $P =$  Power in mW

$G =$  Numeric antenna gain

$S =$  Power density in mW / cm<sup>2</sup>

### GFSK:

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm <sup>2</sup> | Limit (mW/cm2) | Result |
|-----|-----------|--------|-------------|--------|---------------------------------------|----------------|--------|
| Mid | 2441      | 5.012  | 1.58        | 20     | 0.0016                                | 1              | Pass   |

### 8-DPSK:

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm <sup>2</sup> | Limit (mW/cm2) | Result |
|-----|-----------|--------|-------------|--------|---------------------------------------|----------------|--------|
| Mid | 2441      | 1.778  | 1.58        | 20     | 0.0006                                | 1              | Pass   |

### GFSK(4.2):

| Ch. | Frq.(MHz) | P (mW) | Gain (num.) | D (cm) | Power density in mW / cm <sup>2</sup> | Limit (mW/cm2) | Result |
|-----|-----------|--------|-------------|--------|---------------------------------------|----------------|--------|
| Mid | 2442      | 6.31   | 1.58        | 20     | 0.0020                                | 1              | Pass   |