

AUT Report

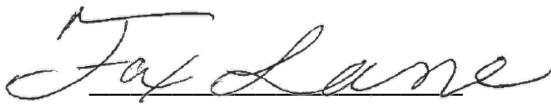
Prepared for: Timpte Industries, Inc.

Address: 100 Timpte Pkwy
PO Box 347
David City, NE 68632
United States

Product: 400-660-002

Test Report No: R230726-00-A1

Approved by:



Fox Lane,
EMC Test Engineer

DATE: January 30, 2024

Total Pages: 10

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REVISION PAGE

| Rev. No. | Date | Description |
|----------|-----------------|--------------------------------------|
| 0 | 30 January 2024 | Issued by FLane Prepared by FLane |



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1.0 SUMMARY OF TEST RESULTS

Antenna gain measurements were reported for the band of operation.

2.0 EUT DESCRIPTION

2.1 EQUIPMENT UNDER TEST

Summary and Operating Condition:

| | |
|---------------------------|--------------------------------|
| EUT | 400-660-002 |
| FCC ID: | 2BEKMRMT01 |
| EUT Received | 28 August 2023 |
| EUT Tested | 13 December 2022- 13 July 2023 |
| Serial No. | NCEETEST1 (Lab assigned SN) |
| Operating Band | 902.0 – 928.0 MHz |
| Device Type | DTS |
| Power Supply | 1.5V internal AAA battery |
| Antenna Gain (dBi) | +1.512dBi , PCB Antenna |

NOTE: For more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.0 LABORATORY AND GENERAL TEST DESCRIPTION

3.1 LABORATORY DESCRIPTION

All testing was performed at the following Facility:

The Nebraska Center for Excellence in Electronics (NCEE Labs)
4740 Discovery Drive
Lincoln, NE 68521

A2LA Certificate Number: 1953.01
FCC Accredited Test Site Designation No: US1060
Industry Canada Test Site Registration No: 4294A
NCC CAB Identification No: US0177

Environmental conditions varied slightly throughout the tests:

Relative humidity of $35 \pm 4\%$
Temperature of $22 \pm 3^\circ$ Celsius



3.2 TEST PERSONNEL

| No. | PERSONNEL | TITLE | ROLE |
|-----|-----------|---------------|--------------------|
| 1 | Fox Lane | Test Engineer | Testing and report |

Notes:

All personnel are permanent staff members of NCEE Labs. No testing or review was sub-contracted or performed by sub-contracted personnel.



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3.3 TEST EQUIPMENT

| DESCRIPTION AND MANUFACTURER | MODEL NO. | SERIAL NO. | LAST CALIBRATION DATE | CALIBRATION DUE DATE |
|----------------------------------------------------------|--------------------------------|----------------------|-----------------------|----------------------|
| Keysight MXE Signal Analyzer (26.5GHz) | N9038A | MY56400083 | July 17, 2023 | July 17, 2025 |
| Keysight EXA Signal Analyzer | N9010A | MY56070862 | July 18, 2023 | July 17, 2025 |
| SunAR RF Motion | JB1 | A091418 | July 27, 2023 | July 26, 2024 |
| ETS – Lindgren- VSWR on 10m Chamber | 10m Semi-anechoic chamber-VSWR | 4740 Discovery Drive | July 30, 2020 | July 30, 2024 |
| NCEE Labs-NSA on 10m Chamber* | 10m Semi-anechoic chamber-NSA | NCEE-001 | May 25, 2022 | May 25, 2025 |
| RF Cable (antenna to 10m chamber bulkhead) | FSCM 64639 | 01E3872 | June 5, 2023 | June 5, 2025 |
| RF Cable (10m chamber bulkhead to control room bulkhead) | FSCM 64639 | 01E3874 | June 5, 2023 | June 5, 2025 |
| RF Cable (control room bulkhead to test receiver) | FSCM 64639 | 01F1206 | June 5, 2023 | June 5, 2025 |
| N connector bulkhead (10m chamber) | PE9128 | NCEEBH1 | June 5, 2023 | June 5, 2025 |
| N connector bulkhead (control room) | PE9128 | NCEEBH2 | June 5, 2023 | June 5, 2025 |
| TDK Emissions Lab Software | V11.25 | 700307 | NA | NA |

*Internal Characterization

**2 Year Cal Cycle

Notes:

All equipment is owned by NCEE Labs and stored permanently at NCEE Labs facilities.

3.4 GENERAL TEST PROCEDURE AND SETUP FOR RADIO MEASUREMENTS

Measurement type presented in this report (Please see the checked box below):

Conducted

The conducted measurements were performed by connecting the output of the transmitter directly into a spectrum analyzer using an impedance matched cable and connector soldered to the EUT in place of the antenna. The information regarding resolution bandwidth, video bandwidth, span and the detector used can be found in the graphs provided in Appendix C. All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

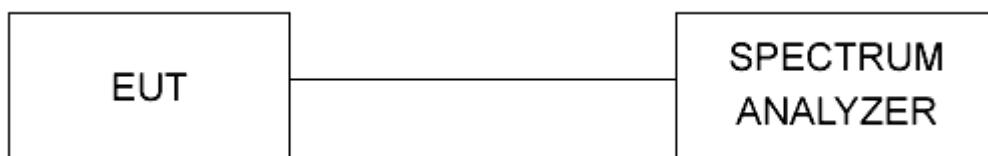


Figure 1 - Bandwidth Measurements Test Setup

Radiated

All the radiated measurements were taken at a distance of 3m from the EUT. The information regarding resolution bandwidth, video bandwidth, span and the detector used can be found in the graphs provided in Appendix C. All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

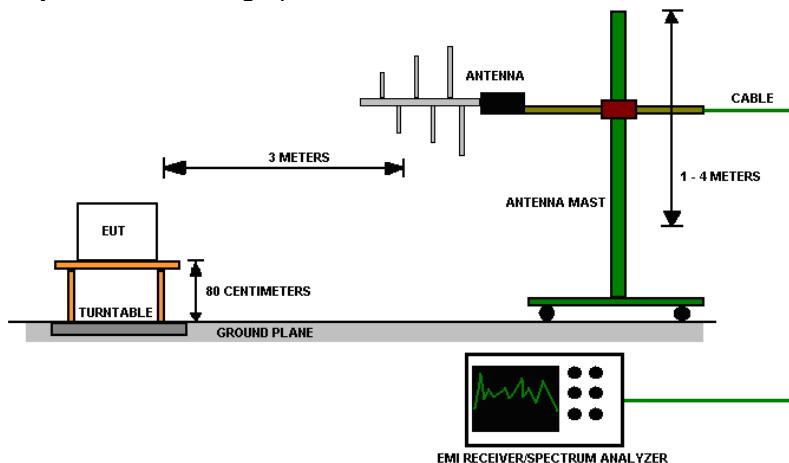


Figure 2 - Radiated Emissions Test Setup



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4.0 RESULTS

4.1 ANTENNA GAIN

Test procedures:

The device's conducted power was measured then the same measurement was repeated on a radiated sample at 3m test distance and converted to E.I.R.P.

Test setup:

Details can be found in section 2.1 of this report.

EUT operating conditions:

Details can be found in section 2.1 and 2.2 of this report.

Test results:**Antenna Gain:**

Radiated Average Power (EIRP) – Conducted Average Power = Antenna gain

9.811dBm – 8.299dBm = **+1.512dBi**

Comments:

NA

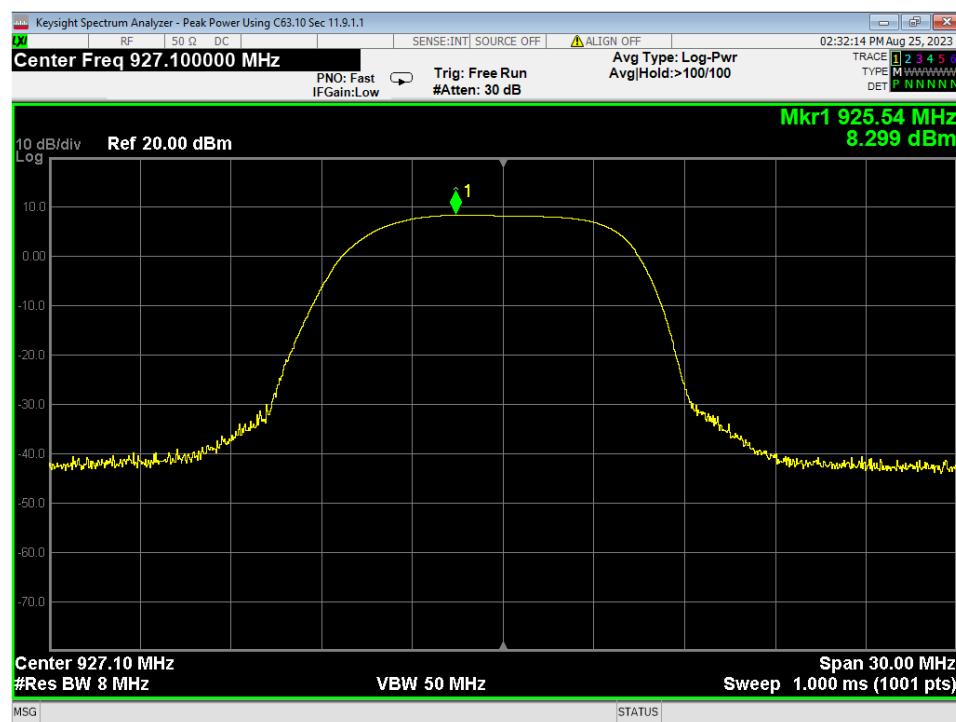


Figure 3 – Conducted Peak Power Measurement

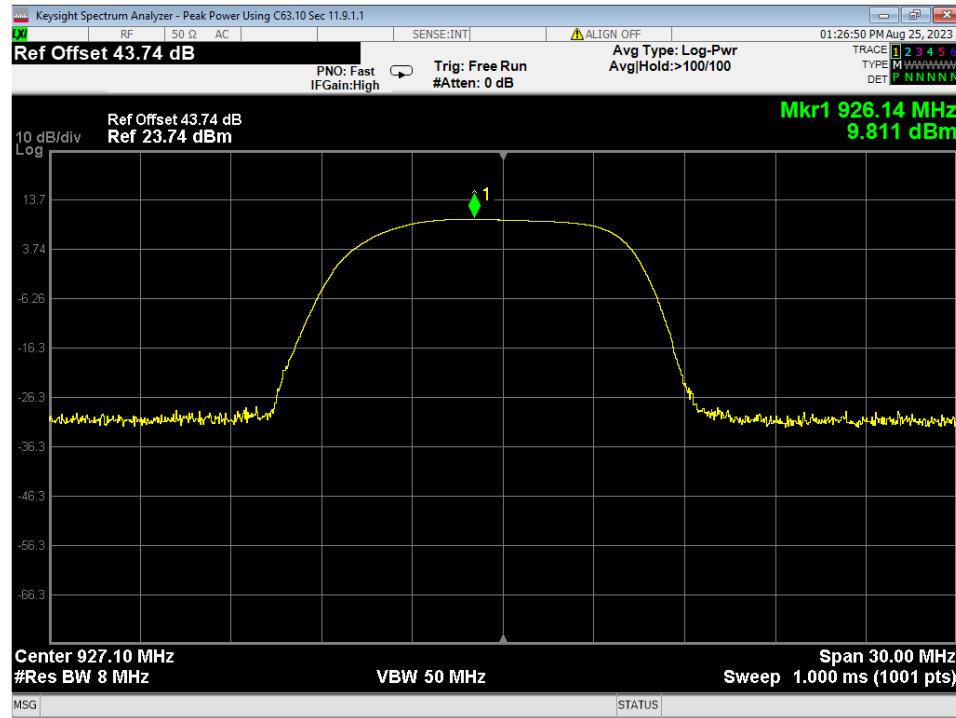


Figure 4 – Radiated Peak Power Measurement

Measurement corrections conversions are included in reference offset.



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