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BECEN 100W N-

BECEN 100W N-Male Dummy Load Instruction Manual

Model: 100W N-

1. Introduction

The BECEN 100W N-Male Dummy Load is a precision termination device designed for RF (Radio Frequency) applications. It provides a stable 50 Ohm impedance, allowing for safe testing and measurement of RF equipment without radiating signals into an antenna. This device is essential for various RF testing scenarios, including transmitter output power measurement, tuning, and SWR analysis.

2. Product Overview

The BECEN 100W N-Male Dummy Load features a robust design with excellent heat dissipation capabilities, ensuring reliable performance during operation. Its N-Male connector ensures compatibility with a wide range of RF equipment.

Key Features:

- **Power Handling:** 100 Watts
- **Connector Type:** N-Male
- **Frequency Range:** DC to 3 GHz
- **Impedance:** 50 Ohms
- **VSWR:** ≤ 1.20





Figure 2.1: Front view of the BECEN 100W N-Male Dummy Load, showcasing its finned heat sink design and N-Male connector.

Figure 2.2: A collage showing various angles of the BECEN 100W N-Male Dummy Load, highlighting its compact form factor and connector type.

3. Safety Information

Adhering to safety guidelines is crucial for preventing damage to the device and connected equipment, as well as ensuring user safety.

- Always ensure the dummy load is properly connected and tightened before applying any RF power.

- Do not exceed the specified power rating of 100 Watts. Exceeding this limit can cause permanent damage to the dummy load and potentially to the connected RF equipment.
- The dummy load may become warm or hot during operation, especially when handling higher power levels. Avoid direct contact with the device during and immediately after use. Allow it to cool down before handling.
- Use the dummy load in a well-ventilated area to facilitate heat dissipation.
- Keep the device away from liquids and extreme temperatures.

4. Setup

Proper setup ensures accurate measurements and safe operation.

1. **Identify Connector:** Locate the N-Female connector on your RF equipment (e.g., transmitter, amplifier, Vector Network Analyzer (VNA)).
2. **Connect Dummy Load:** Carefully align the N-Male connector of the BECEN dummy load with the N-Female connector on your equipment.
3. **Secure Connection:** Thread the connector clockwise until it is finger-tight. Avoid overtightening, as this can damage the connectors. A secure connection is vital for maintaining proper impedance and minimizing signal loss.

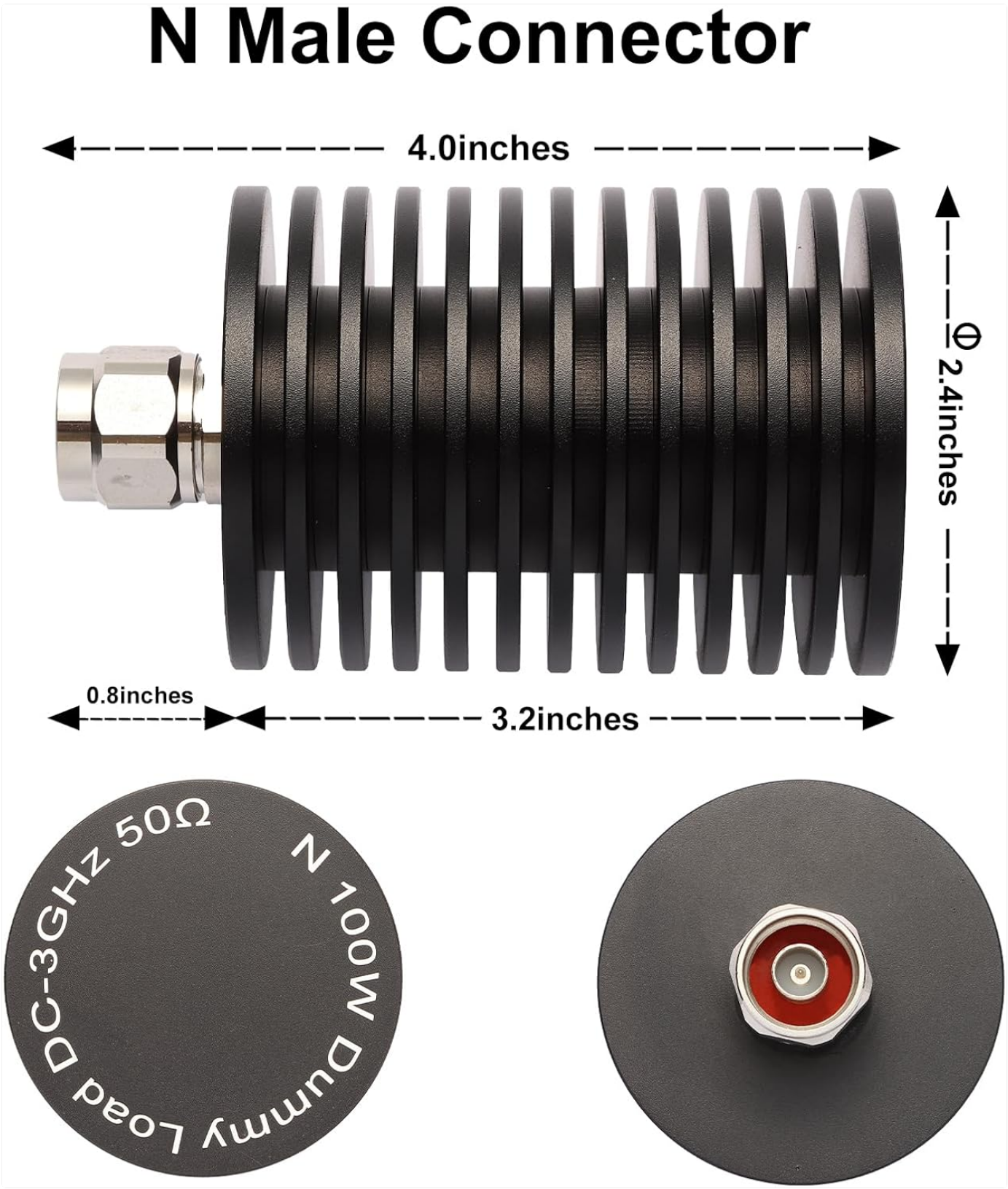


Figure 4.1: Diagram illustrating the dimensions of the BECEN 100W N-Male Dummy Load, useful for planning setup space.

5. Operating Instructions

The dummy load provides a non-radiating termination for your RF signal, allowing for various tests.

1. **Power Application:** Once the dummy load is securely connected, you can apply RF power from your equipment.
2. **Testing:** Use the dummy load for testing transmitter output power, tuning RF circuits, and performing SWR (Standing Wave Ratio) measurements. It effectively absorbs the RF energy, preventing it from being radiated.
3. **Monitoring:** Continuously monitor the power output of your equipment to ensure it does not exceed the 100W rating of the dummy load. Prolonged operation at or near maximum power may require intermittent cooling periods.



Figure 5.1: An illustration demonstrating the measurement of the dummy load's 50 Ohm impedance using a multimeter.

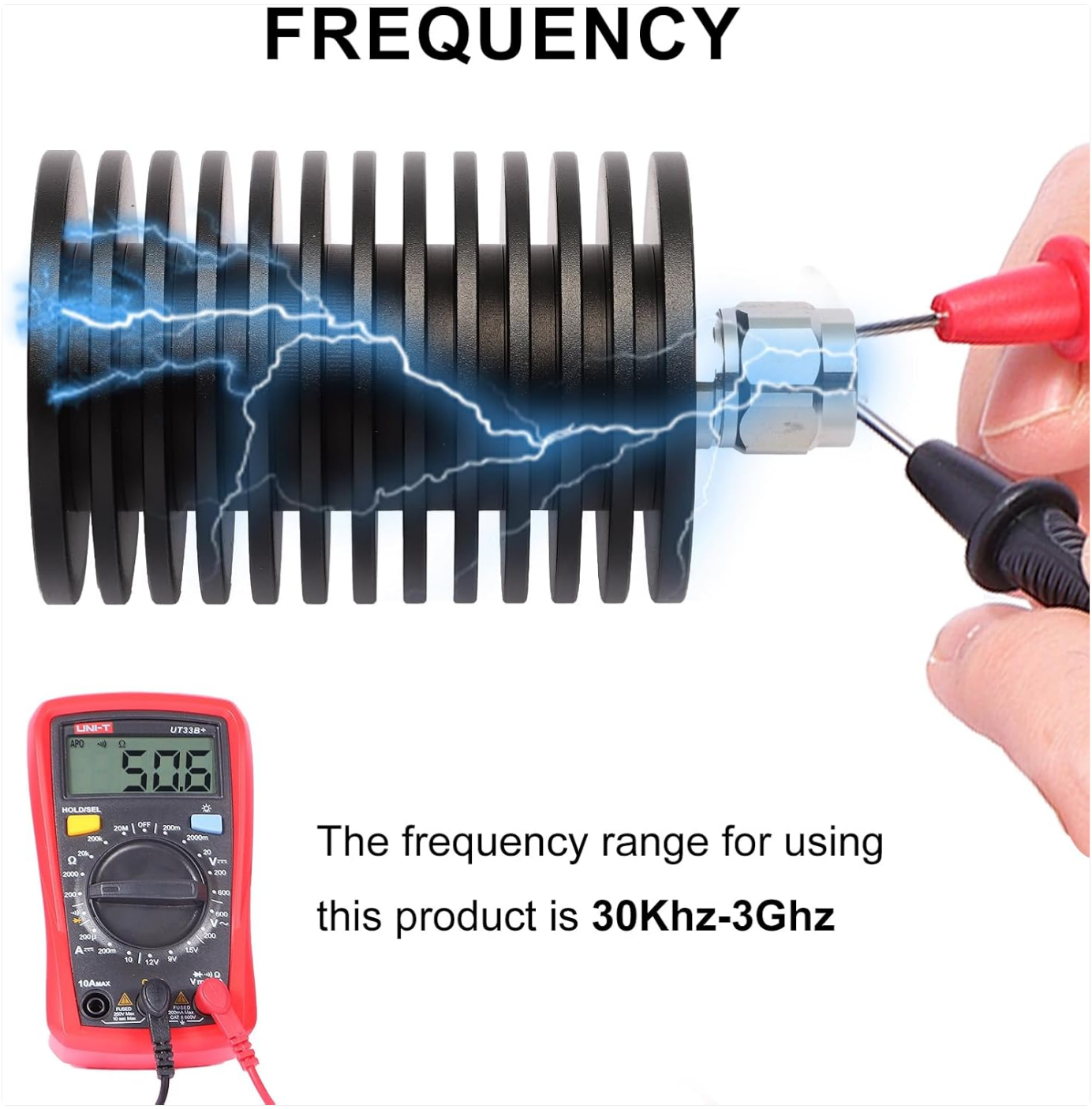


Figure 5.2: An image depicting the frequency range measurement of the dummy load, indicating its capability from DC to 3 GHz.

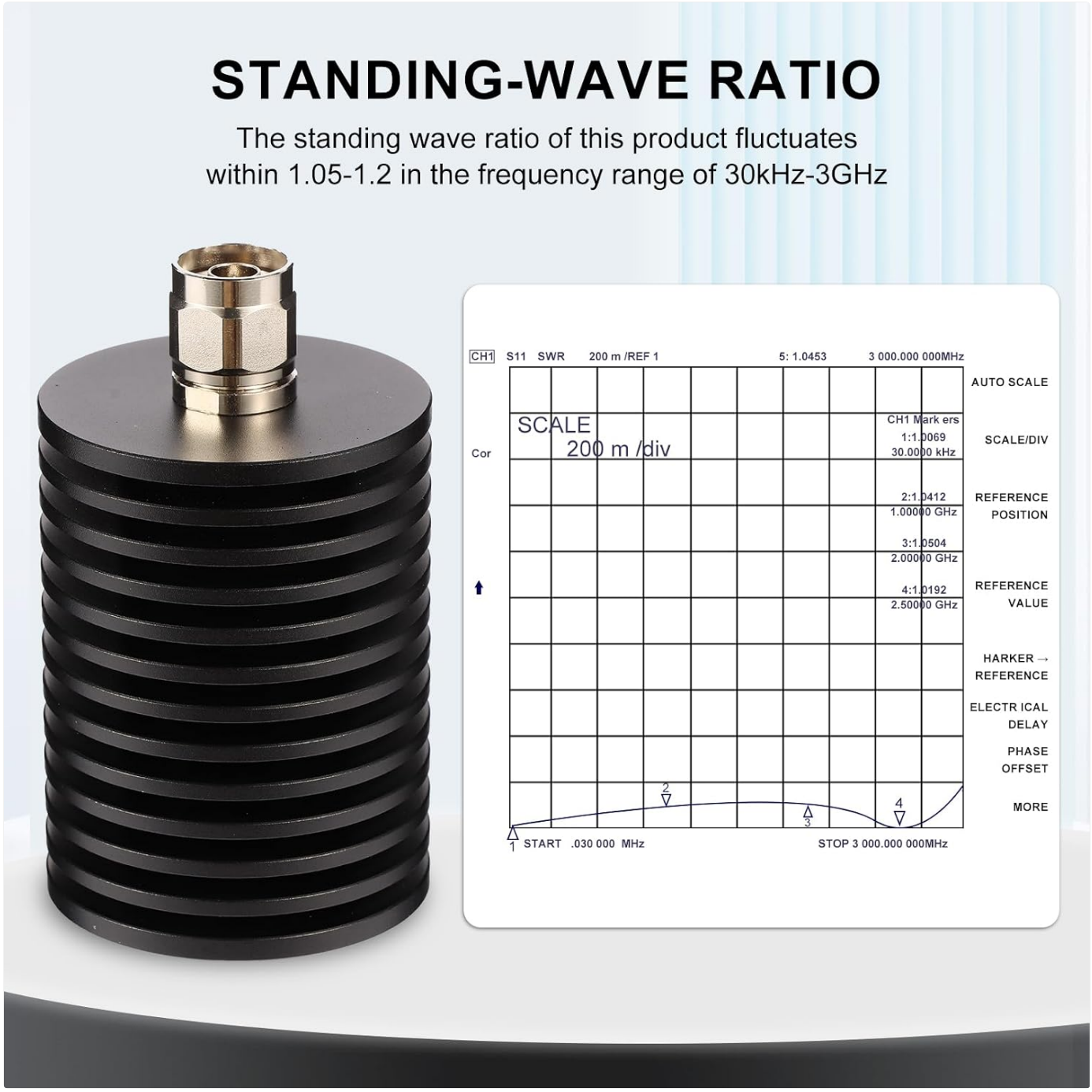


Figure 5.3: A graph illustrating the Standing Wave Ratio (VSWR) performance of the dummy load across its frequency range, showing a VSWR of ≤ 1.20.

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Video 5.1: An official product video demonstrating the BECEN 100W N-Male Dummy Load, highlighting its features and design.

6. Maintenance

Regular maintenance helps ensure the longevity and optimal performance of your dummy load.

- **Cleaning:** Keep the N-Male connector clean and free from dust, dirt, or debris. Use a soft, dry cloth to wipe the exterior of the device. Avoid using abrasive cleaners or solvents.
- **Storage:** When not in use, store the dummy load in a dry, cool environment, away from direct sunlight and extreme temperatures.
- **Inspection:** Before each use, visually inspect the connector for any signs of damage, corrosion, or wear. Ensure the fins of the heat sink are clear of obstructions to allow for proper airflow.

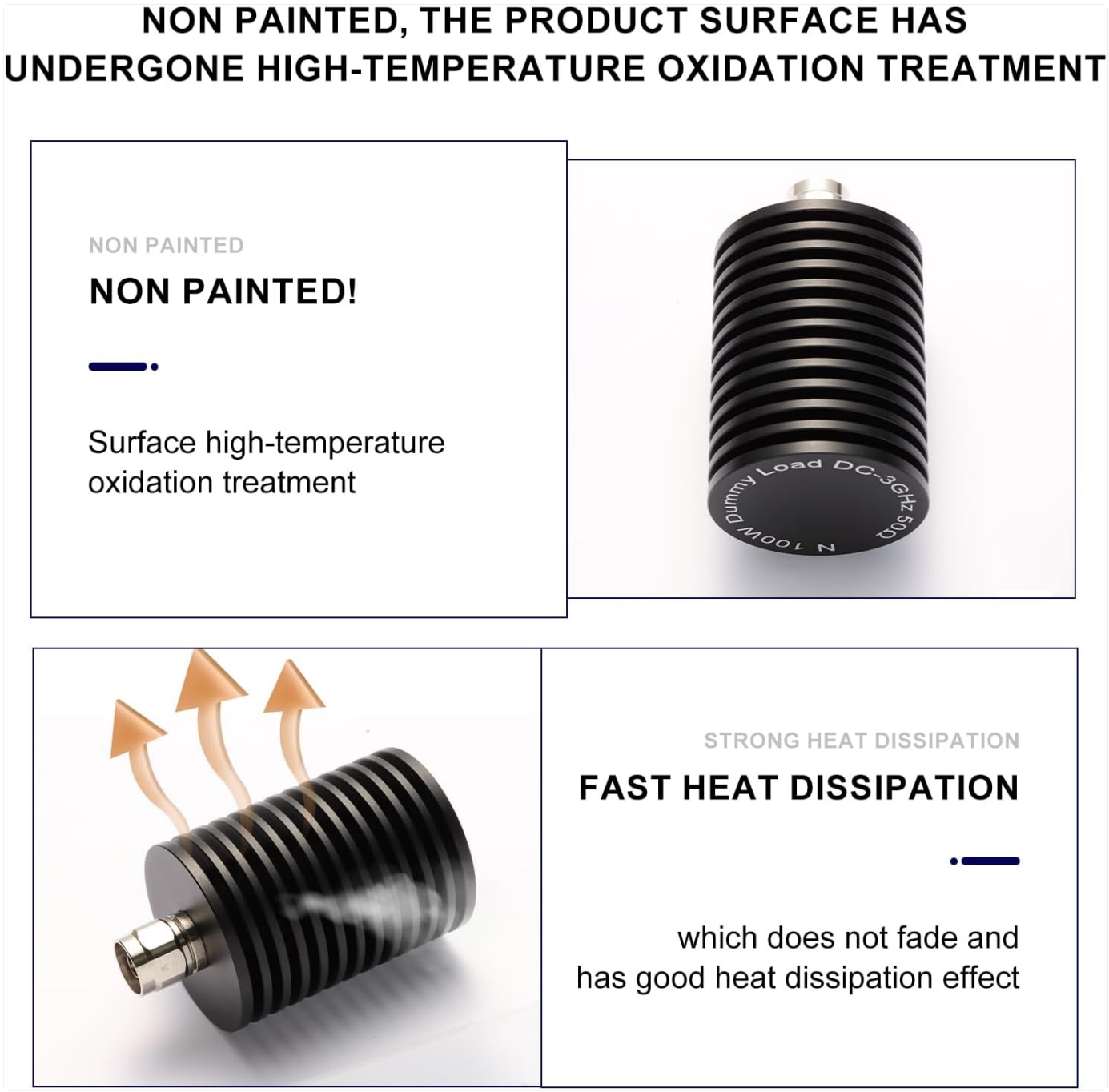


Figure 6.1: An image illustrating the heat dissipation capabilities of the dummy load, emphasizing its high-temperature oxidation treatment and fast heat dissipation design.

7. Troubleshooting

This section addresses common issues you might encounter.

Issue: High SWR readings or unstable measurements.
Solution:

- Ensure the N-Male connector is securely and properly tightened to the N-Female port of your equipment.
- Inspect both the dummy load's connector and your equipment's connector for any physical damage, bent pins, or debris.
- Verify that the impedance of your RF equipment is 50 Ohms, matching the dummy load.

Issue: Dummy load becomes excessively hot during operation.
Solution:

- Reduce the applied RF power. Ensure the power level does not exceed the 100W rating.

- Allow adequate cooling time between extended test sessions, especially when operating at higher power levels.
- Ensure the dummy load is in a well-ventilated area and that its heat sink fins are not obstructed.

8. Specifications

Specification	Value
Brand	BECEN
Model Number	100W N-
Connector Type	N-Male
Frequency Range	DC to 3 GHz
Wattage	100 Watts
Impedance	50 Ohms
VSWR	≤ 1.20
Item Weight	1 Pound
Color	Black
Outer Material	Other
Specification Met	CE
Recommended Uses	RF testing

9. Warranty and Support

For warranty information, technical assistance, or customer support regarding your BECEN 100W N-Male Dummy Load, please refer to the official BECEN website or contact the retailer from whom the product was purchased. Please have your product model number and purchase date available when seeking support.

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