

Section 5 Maintenance

5-1 Introduction

This section contains periodic maintenance and performance test procedures for NTGS86AB Single-Carrier Cellular Power Amplifier module.

NOTE

Check your sales order and equipment warranty before attempting to service or repair the unit. Do not break the seals on equipment under warranty or the warranty will be null and void. Do not return equipment for warranty or repair service until proper shipping instructions are received from the factory.

5-2 Periodic Maintenance

Periodic maintenance requirements are listed in table 5-1. Table 5-1 also lists the intervals at which the tasks should be performed.

Table 5-1 Periodic Maintenance

Task	Interval	Action
Inspection: Cables and Connectors	12 Months	Inspect signal and power cables for frayed insulation. Check RF connectors to ensure they are tight.
Performance Tests		No periodic maintenance is necessary beyond that recommended by the base station manufacturer.

5-3 Amplifier Module Field Replacement

The NTGS86AB power amplifier module can be replaced in the field on site by a qualified technician with adequate ESD protection and experience maintaining RF power amplifiers and similar equipment.

To replace a power amplifier module, proceed as follows:

1. Turn off the +26 Vdc power source to that specific amplifier module.
2. Disconnect the RF INPUT, RF OUTPUT, RF SAMPLE, and 18-pin Molex connectors.
3. Remove seven (7) screws that secure the amplifier module to the heat sink.
4. Carefully remove the amplifier module from the heat sink.
5. Remove any remaining Thermstrate from the heat sink. Use alcohol or other recommended cleaning agent to achieve a clean heat sink mounting surface.

NOTE

Failure to completely remove old thermal grease, or the introduction of too much thermal grease will dramatically alter the thermal transfer process between the amplifier module and the heatsink.

6. Add Thermstrate thermal interface pad to surface of replacement amplifier, that mates with heatsink. Use just enough Thermstrate to be evenly visible on the mounting surface.
7. Install replacement in reverse order of steps 1 through 4 above.

Section 6 Troubleshooting

6-1 Introduction

This section contains a list of problems and a few suggested actions that may correct the problem. If the suggested corrective action does not eliminate the problem, please contact your Powerwave field representative or the factory for further instructions.

NOTE

Check your sales order and equipment warranty before attempting to service or repair the unit. Do not break the seals on equipment under warranty or the warranty will be null and void. Do not return equipment for warranty or repair service until proper shipping instructions are received from the factory.

6-2 Troubleshooting

Table 6-1 lists general guidelines established to aid Field Engineers or Cell Site Technicians in the proper method of Powerwave equipment fault resolution by fault mode.

Table 6-1 Troubleshooting

Symptom	Suggested Action
SCPA Inoperative	Check for proper power supply voltage.
SCPA Not Enabled	Verify ENABLE(+) line is high.
Alarm Output is (RS-422) High	Verify input RF is within specified power and frequency limits

6-3 Return For Service Procedures

When returning products to Powerwave, the following procedures will ensure optimum response.

6-3.1 Obtaining An RMA

A Return Material Authorization (RMA) number must be obtained prior to returning equipment to the factory for service. Please contact our Repair Department at (888) 797-9283 or (714) 466-1000 to obtain this number, or FAX your request to (714) 466-5816. Failure to obtain this RMA number may result in delays in receiving repair service.

6-3.2 Repackaging For Shipment

To ensure safe shipment of the amplifier, it is recommended that the package designed for the amplifier be used. The original packaging material is reusable. If it is not available, contact Powerwave's Customer Service Department for packing materials and information.