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Operating Instructions for K-band Amplifier

QBP-21014750

QuinStar Technology, Inc.

SCOPE:

This document provides operating instruction for the 50 Watts K-band SSPA; Model number QBP-21014750.



Figure 1: QBP-21014750

NORMAL OPERATION:

The SSPA is ESD sensitive. Please take necessary precautions to avoid ESD discharges.

1. Power Up Sequence:

- (a) Securely mount the SSPA onto a temperature controlled plate with sufficient capacity. Typical SSPA power dissipation is 275 Watts. Monitor the SSPA temperature at the assigned location as indicated in figure 2. Turn on the temperature controlled plate to maintain the base temperature within the specified operating range.

- **Do not exceed 55° C while operating the SSPA. The SSPA will shut down if the temperature exceeds safe operating conditions.**

- **Do not allow condensation to accumulate while operating at low temperatures.**
- (b) Make sure the input RF source signal is off.
 - (c) Connect proper terminations to the SSPA RF input and output ports. High VSWR, such as open or short circuit terminations may permanently damage the SSPA.
 - (d) Connect a power supply of sufficient capacity and TTL control to the circular connector (P1 connector.) Please refer to the SSPA IDC for connector Pinout description.

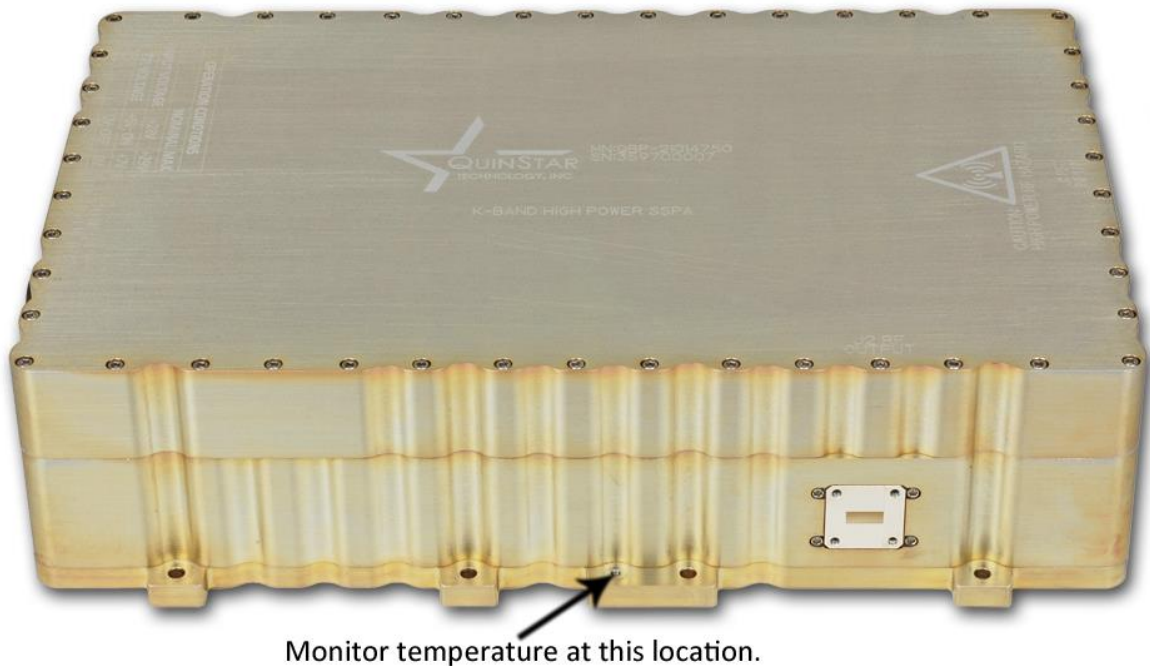


Figure 2

- (e) With the TTL command set low, Turn on the +28V supply. The SSPA will draw about 300mA of DC current.
 - **Do not operate the SSPA higher than +29V to avoid permanent damage.**
 - (f) Turn on +5V TTL control voltage. The TTL requires approximately 8mA.
 - **Do not operate with TTL levels greater than +7V.**
 - (g) Adjust input RF power to proper levels. Do not exceed +10dBm at the RF input
 - (h) Enable input RF source signal.
 - (i) Allow 10 min for the SSPA temperature to stabilize before taking any RF measurement.
- 2. Power Down Sequence:**
- (a) Turn off input RF source signal.
 - (b) Turn off TTL control voltage.
 - (c) Turn off +28V power supply.
 - (d) Disconnect power supply voltage.



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(e) Remove DC harness.

3. Temperature shut down:

The QBP-21014750 has built-in over temperature protection. It will shut down all internal DC regulators when the SSPA temperature is 55°C or higher. The total DC current will drop to approximately 300mA if this happened. And the amplifier will turn back on by itself when its temperature is dropping down.

ABSOLUTE MAXIMUM RATINGS:

RF Input	+10 dBm
DC Input Voltage	+29V
TTL voltage	+7V
Operating Temperature	0 to +55°C (on baseplate)
Storage Temperature	-50 to +95°C

Customer Service:

General : 310-320-1111 Ext. 118

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