

## MAIN FEATURES

- ❖ 2kW RF power
- ❖ Full remote M&C
- ❖ High reliability
- ❖ Compact size



## DESCRIPTION

This solid state power amplifier is intended for use in S-band satellite communications systems as uplink SSPA. It is to be installed into a protected hub directly to the antenna. The SSPA can be fully remotely monitored and controlled via the built-in RS-485 or Ethernet port. The optional 1:1 hot redundant arrangement increases the reliability of the system.

## SPECIFICATIONS

ELECTRICAL CHARACTERISTICS	
Frequency Band	2025 – 2120 MHz
RF Output Power	63 dBm (2000W) min. @ P1dB
Power Gain	65 dB min.
Gain Slope	± 0.3 dB/10 MHz max.
Gain Flatness	± 0.5 dB
Output Power Stability vs. Temp (ALC ON)	± 1 dB(+5°C to +35°C) max.
ALC Control	20 dB min.
Gain Adjustment Range	25dB
Gain Adjustment Step	0.1 dB typ.
AM/PM Conversion @ Pout=60dBm	3.5°/dB max.
In/Out Impedance Nominally	50 Ohms
Input VSWR	< 1.3 : 1
Output VSWR	< 1.3 : 1
Harmonics @ Pout=60dBm	< -70 dBc (upto 4th harmonic)
Spurious	< -70 dBc
Group delay variation (with filter)	Linear: 0.03 ns/MHz Parabolic: 0.003ns/MHz <sup>2</sup> Ripple: 1ns pk-pk
Output noise in band 2.2-2.3 GHz	< -155dBm/Hz (with internal BPF)
Noise figure	< 6 dB
Intermodulation distortion @ 2 x 57 dBm Pout	< -25 dBc (according to MIL-STD-188-164B)
MTBF	25 000 Hours
Power supply	380 V; 47-63 Hz; three phase
Power consumption @ 2 kW RF output	< 6000 VA
MECHANICAL CHARACTERISTICS	
Connectors	RF IN: N-Female RF OUT: WR430 RF OUT SAMPLE (-60dBc): N-Female M&C: RJ45 (Ethernet) AC IN: AC connection box



## BPBS77 2kW S-band Rack mounted SSPA

Mechanical dimensions	1484(H) x 592(W) x 1100(D) mm (see outline drawing)
Weight	Approx. 290kg
<b>ENVIRONMENTAL CHARACTERISTICS</b>	
Operating temperature range	+5°C to +45°C
Storage temperature range	-30°C to +60°C
Cooling	Forced air cooling (PWM controlled fans)
Shock & Vibration	Transportation
<b>ENVIRONMENTAL CHARACTERISTICS</b>	
M&C interface for remote control	Ethernet; (optional: RS485)

Specifications are subject to change without notice.

## CONTROL SOFTWARE SUMMARY SCREEN (FOR REFERENCE ONLY)

The screenshot shows the control software interface for the BPBS77 amplifier. The top navigation bar includes sections for Factory Settings, User Settings, Remote Control, Connection Mode, and System Status. The main area is divided into several panels:

- Device Information:** Device Type: BPBS77, Serial Number: 002, Date of Manufacture: 10.10.2023, Firmware Version: 2.4, Hardware Version: 1.0.
- Control Panels:** ALC ON-OFF (ON/OFF), ALC Level (63.0 dBm), Attenuation (0.0 dB).
- AMPLIFIER OPERATING:** RF Out: ON. Two bar graphs show Output Power (63.0 dBm) and F. Stages Avg. Temp (47.94 °C).
- Monitor:** A table showing various parameters with status indicators (green/red circles):

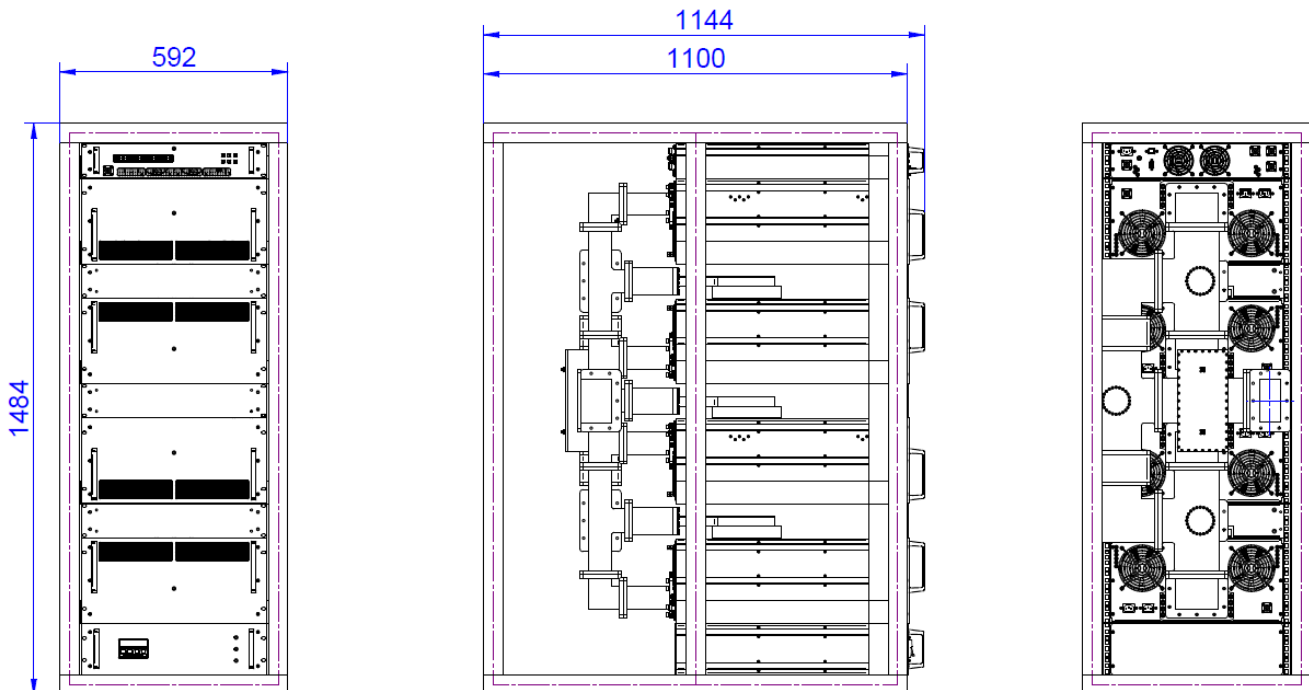
Monitor	Current	History
Sum Current	●	●
9V Supply Voltage	●	●
28V Supply Voltage	●	●
Output Return Loss	●	●
9V Current	●	●
Fan curr.	●	●
Preamp Temp.	●	●
- Bottom Panel:** RF by User (ON/OFF), Output Return Loss = -21.30 dB, RF Input Power = -5.8 dBm.



# BPBS77 2kW S-band Rack mounted SSPA



## OUTLINE DRAWING (mm)





## BPBS77 2kW S-band Rack mounted SSPA

### ORDERING INFORMATION

MODEL NUMBER	DESCRIPTION
BPBS77	2kW S-band Rack mounted SSPA

### DOCUMENT REVISION

DOCUMENT NAME	REVISION	DATE
BPBS77-LM-K11336	V02	2024-06-05