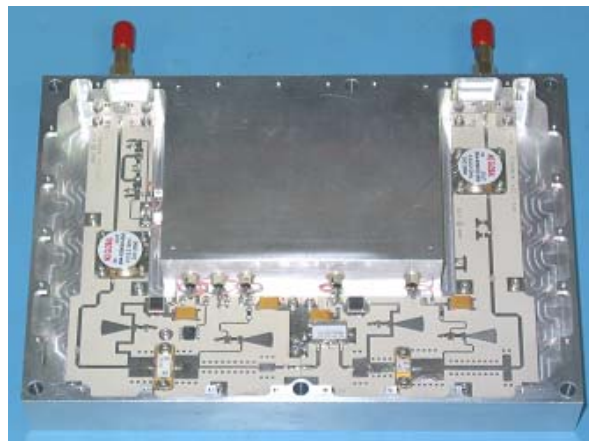


# S-Band High Power Amplifiers



2W High Power Amplifier



4W High Power Amplifier

## Applications

- Designed to boost the RF output power from an S-Band transmitter to either 2 Watts or 4 Watts.
- The amplifier is able to support commercial and amateur S-band frequency of operation as well as high data rates and various modulation schemes.

## Features

- Single-stage (2 watts) or two-stage (4 watts) amplifier design utilising discrete RF GaAs FET transistors providing linear RF output power
- 2 watts amplifier is a single module configuration housing the DC power supply and RF amplifier
- The 4 watts version is a two-module configuration housing the DC power supply in a separate module
- Provides telemetry of DC current consumption, temperature, forward & reverse RF power
- Bias board ensures that the FET gate and drain voltages are sequenced correctly.
- Thick metal backed microwave substrate provides low loss and good thermal conductivity

## Interfaces

- Dimensions:  
2 watts: 33x135x190mm (1 module)  
4 watts: 55x135x190mm (2-modules)
- Mass: 800g / 1250g
- Power: 18W / 33W on 28V supply
- Connectors:  
D-Type (Power/Telemetry)  
Input RF: 3.5mm SMAF  
Output RF: 3.5mm SMAF
- Mounting: 6 x M5 Bolts

## Heritage

- 12 S-band power amplifiers in-orbit (For example: ALSAT, DEIMOS, CFESAT...)
- 6 S-band power amplifiers selected for another 4 spacecraft (E.g.. SAPPHIRE, Nx, ADS-1b ...)

## Availability

- 6 months lead time for 1 off 2W unit
- 9 months lead time for 1 off 4W unit

## Options

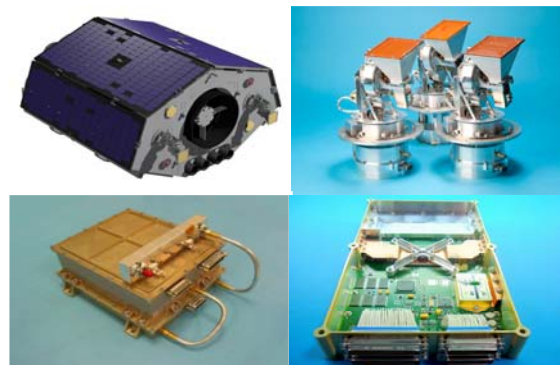
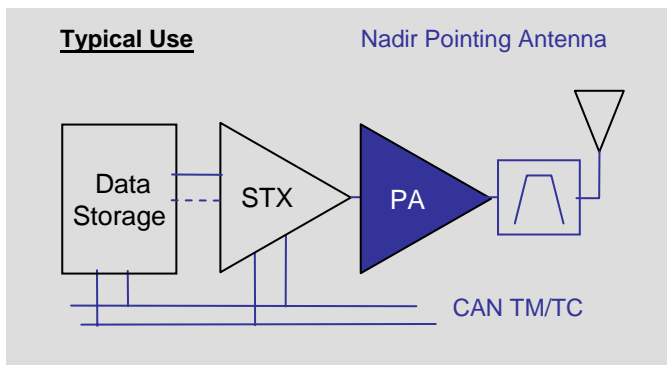
- 2W or 4W

## Other products

- Space borne communications systems:
- Antennas
  - Receivers
  - Transmitters



# S-Band High Power Amplifiers



S-band Payload Downlink Transmitter

<b>Frequency range</b>	<b>2200 to 2290MHz</b>
<b>Class</b>	<b>Class AB operation</b>
<b>RF Output Power</b>	<b>2 or 4W at SMA output (at 50 °C)</b>
<b>Gain</b>	<b>10.75dB / 26dB</b>
<b>1dB Comp. Point</b>	<b>36.5dBm / 38dBm</b>
<b>Input and Output VSWR</b>	<b>1.13:1</b>
<b>Mass</b>	<b>800g/1250g</b>
<b>Dimensions</b>	<b>2 watts: 33x135x190mm (1 module) 4 watts: 57x135x190mm (2-modules)</b>
<b>Power</b>	<b>18W / 33W on 28V supply</b>
<b>Operating Temperature</b>	<b>-20 to +50 °C operating -30 to +60 °C non-operating</b>
<b>Random Vibration</b>	<b>15 G<sub>rms</sub> in all axis</b>
<b>Radiation Tolerance</b>	<b>5 kRad (Si)</b>

## SSTL is ISO9001:2008 certified

Subsystems are manufactured to:

- ECSS Q-ST-70-08C
- ECSS Q-ST-70-38C
- All work overseen by ESA-trained assembly staff

## Standard Delivery Service Includes:

- compliance testing
- vibration test
- thermal cycling
- user manual
- electrical, mechanical & thermal ICDs
- test results
- export license and shipping
- thermal vacuum testing available

## Surrey Satellite Technology Limited

SSTL has launched over 34 satellites gaining almost 200 years in-orbit experience. SSTL draws on its world-class expertise in both small satellite platform technology and high and medium resolution optical instruments. SSTL provides complete turn-key system solutions; spacecraft, ground station, launch, operations and image processing.

SSTL is unique in the space industry; able to design, manufacture and integrate multiple satellites in-house.

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