# C-Band PowerStream 454C-o 400W

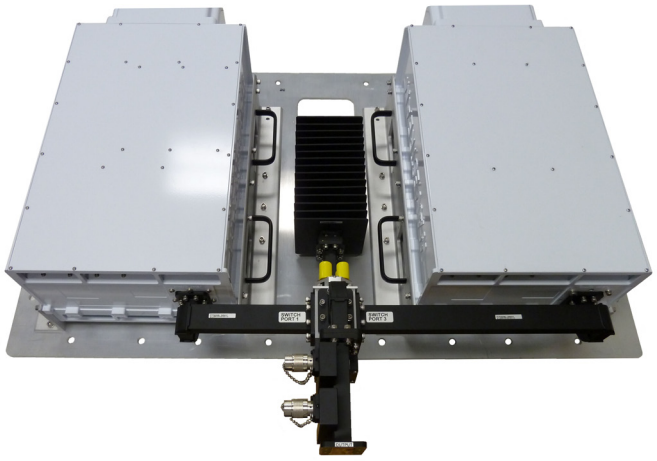
## FEATURES

- Based on Next Generation SSPA Technology
- Lower Power Consumption in a Redundant Configuration
- Instant On - No Warm Up Time
- Field-Proven Reliability, Lower Lifecycle Costs
- Integrated BUC
- 1:1 Redundancy Kits Available

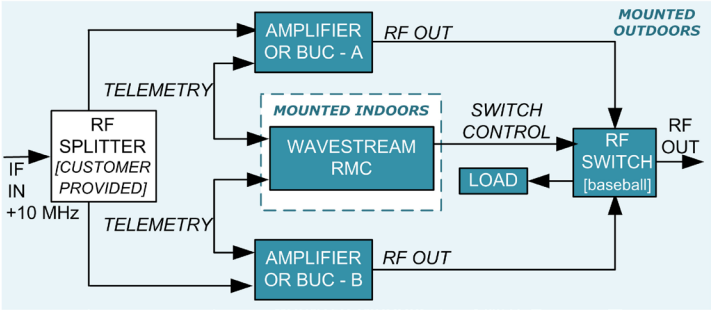
# C-Band PowerStream 454C-o

## The Wavestream Advantage:

- Higher output power with less energy usage.
- Compact product footprint to meet critical space and weight limitations.
- Proven reliability and efficiency.
- Reduced lifecycle maintenance costs.



1:1 Redundant Configuration




Wavestream's outdoor PowerStream® 454C-o Solid State Power Amplifier (SSPA) provides similar linear operating power as the unlinearized 750W Traveling Wave Tube Amplifiers (TWTAs) to support broadcast satellite communications systems worldwide. Based on the same next generation Spatial Power Advantage™ technology as Wavestream's indoor rack-mount SSPAs, the outdoor PowerStream 454C-o amplifier is easy to maintain, and is designed and production-tested to withstand harsh environmments. The PowerStream 454C-o can be mounted close to the antenna to significantly reduce waveguide loss. Once installed, the outdoor amplifier is easily controlled from a redundancy controller or a system computer, providing convenient access to power, temperature and status information.

The PowerStream 454C-o incorporates Wavestream's proven, next generation Spatial Power Advantage technology to provide high output power and lower power draw. For system integrators looking to implement new technology while lowering operating costs, the PowerStream 454C-o in a redundant configuration offers lower power consumption to significantly reduce energy costs over the lifecycle of the system.

Optional 1:1 Redundancy Kits are available to provide an integrated solution for uninterrupted, reliable broadcast satellite transmissions. The 1:1 Redundancy Kit integrates the waveguide, switch and mounting hardware, and offers ease of installation and subsequent maintenance to accommodate outdoor mounts.

## RF Specifications

| | |
|---|---|
| **Transmit Frequency** | 5.85 - 6.425 GHz |
| **IF Frequency** | 950 - 1525 MHz |
| **Frequency Reference** (10 MHz on IF) | 0 dB ± 5 dB |
| **Small Signal Gain** | 75 dB minimum |
| **Gain Adjustment** | 20 dB, 0.25 dB steps nominal |
| **Gain Variation** (over frequency at fixed temperature) | 1.0 dB over 36 MHz<br>4.0 dB over full band |
| **Gain Variation** (over temperature at fixed frequency) | 2 dB p-p over operating range |
| **Saturated Output Power** | +56 dBm nominal |
| **$P_1$dB Output Power** | > +55 dBm |
| **Rated Output Power** | +55 dBm |
| **Intermodulation *** (Reference to single carrier level at +52 dBm total Output Power) | -25 dBc |
| **Spectral Regrowth** (For QPSK at 1.5x and OQPSK at 1.0x symbol rate offset at +52 dBm total Output Power) | -30 dBc |
| **Phase Noise** | IESS-308/309 - 2 dB |
| **AM/PM Conversion** (at +52 dBm) | 2.5 deg/dB maximum |
| **Noise Power Density - Transmit** | -70 dBW/4 kHz |
| **Noise Power Density - Receive** | -150 dBW/4 kHz |
| **Output Spurious** | -60 dBc |

## Power

| | |
|---|---|
| **AC Power** | 180-264 VAC, 50-60 Hz |
| **AC Power Draw** (typical) (at Rated Output Power) | 2.1 kVA (maximum) |
| **AC Power Draw** (at 3 dB Back-off from Rated Output Power) | 1.6 kVA |
| **Power Factor** | 0.99 Typical (0.95 minimum) |

*Guaranteed over temperature and frequency

# C-Band PowerStream 454C-o 400W

## Interfaces

| | |
|---|---|
| **IF Input Connector** | Type N Female |
| **IF Input Impedance** | 50 ohms |
| **IF Input VSWR** | 1.3:1 maximum |
| **RF Output Connector** | CPR-137G Waveguide Flange |
| **RF Output VSWR** | 1.25:1 maximum |
| **RF Sample Port Connector** | Type N Female |
| **RF Sample Port** | -40 dBc typical |
| **AC Connector** | 4-Pin Male, Amphenol C016 20C003 100 12 |
| **Monitor & Control Connector** | 19-Pin Male, MS3112E 14-19P |
| **Monitor & Control** | Serial RS-485 (SA-bus), Serial Control, Ethernet with SNMP support. |

## Physical

| | |
|---|---|
| **Size** | 24.5"L x 12.8"W x 8.5"H |
| **Weight** | 83 lbs |
| **Operating Temperature** (Ambient Air) | -40°C to +60°C |
| **Relative Humidity** | 100% Condensing |
| **Shock & Vibration** | Designed to withstand 20G at 11 ms ½ sine wave non-operating conditions, and MIL-STD-810E, method 514-4 transportation vibration |
| **Altitude** | 10,000 ft above sea level (operating) |

## Options

**1:1 Redundancy Kit -** to include waveguide, switch, cable connectors and mounting hardware

**Rack Mount Controller -** 1U rack mount chassis to control any Wavestream amplifier in a 1:1 configuration with LCD display and key status LEDs

**Indoor to outdoor cable assemblies -** available in 25', 50', or 100' lengths

## Base Model Number

POB-CSA400

WAVESTREAM

545 West Terrace Drive
San Dimas, CA 91773
Toll Free: (877) 214-6294
sales@wavestream.com
www.wavestream.com

Wavestream's next generation Ka, Ku, X and C-band solid state power amplifiers and block upconverters meet the growing demand for higher performance and significant lifecycle cost reductions for mission-critical satellite communications systems worldwide.


C-band 90-010-0023 Rev. A 0329-2011