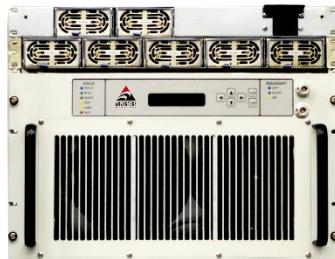


## C-Band Rack-mount SSPA/SSPB

ARM-C Series



### Features

- Full range of output power from 150W to 1000W
- High linearity
- Redundant ready with no external controller required
- Full M&C capability via RS-232 or RS-485
- Forward and Reflected high precision power monitoring
- Input / Output Sample Ports with precision Calibration Charts
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Built-in Harmonic Filter
- PFC (Power Factor Correction)
- CE marking

### Overview

Advantech Wireless C-Band line of Amplifiers and BUCs are intended for satellite up-link applications. The design of these units is based on Advantech Wireless' proven techniques resulting in high linearity and operating efficiency. Conservative thermal design contributes to the very high MTBF for these units. Full monitor and control is provided via the serial or Ethernet ports. Special features such as automatic over-temperature shutdown and high-reflected power and overdrive protection contribute to a trouble free operation.

The ARM-C series 19" rackmount SSPA/SSPB (BUC) is available in output power ranging from 16W to 1000W. Higher power operation may be provided using external phase combining techniques offering an output power up to 6,000W. Please contact factory for more details.

Advantech Wireless also offers the SUMMIT™ and SapphireBlu™ modular SSPA systems for either indoor or outdoor applications.

The full set of accessories made available will facilitate the integration of these units in any application.

### Options

- 1:1 or 1:2 redundant configuration
- Phase combined systems for higher power
- L-Band input (SSPB/BUC operation)
- 10/100BT Ethernet, WEB Interface,
- SNMP v1, v2, v3 Interface
- CLI
- Very high stability 10 MHz OCXO (BUC)
- Button RF On/Mute for fast emergency
- Audible Alarm and ACO (Audible Cut Off) button

### Accessories

- Mounting slides
- Remote M&C panel
- 500W, 1kW, 3kW Waveguide Loads
- W/G Circulators
- W/G Switches

### Redundancy

Advantech Wireless C-Band line of Amplifiers and BUCs may be configured to operate in 1:1 or 1:2 redundancy mode. No extra controller is required for the redundancy operation as the built-in controller in each unit provides this function. For 1:1 redundancy operation, in addition to the two units (operating and standby) a special redundancy kit is required. For 1:2 redundancy operation another redundancy kit is needed in addition to the three units. The kits include the waveguide switches, terminations, splitter, interconnecting cable assemblies and mounting frames.

All redundancy systems are delivered fully tested.

## C-Band Rack-mount SSPA/SSPB

### Technical Specifications

Table A

| Band* | RF Band (GHz) | L-Band Input for BUC (MHz) | LO for BUC (GHz) | Output Power (W) |
|-------|---------------|----------------------------|------------------|------------------|
| CS    | 5.850 – 6.425 | 950 – 1525                 | 4.900            | 150 - 1000       |
| CX    | 5.850 – 6.725 | 950 – 1825                 | 4.900            | 150 - 800        |
| CL    | 4.400 – 5.000 | 950 – 1550                 | 3.450            | 150 - 1000       |
| CI    | 6.725 – 7.025 | 1225 – 1525                | 5.500            | 150 - 1000       |
| CP    | 6.425 – 6.725 | 1025 – 1325                | 5.400            | 150 - 1000       |
| CR    | 5.725 – 6.325 | 950 – 1750                 | 4.775            | 150 - 1000       |

\*Other frequency sub-bands are available. Please consult factory.

Table B

### SSPA/SSPB (BUC) Line

| Rated Power W | Psat dBm | P1dB dBm | Gain (dB) minimum |     | Availability in this series |    | Power Consumption W (nominal) | Weight          | Dimensions Outline |
|---------------|----------|----------|-------------------|-----|-----------------------------|----|-------------------------------|-----------------|--------------------|
|               |          |          | SSPA              | BUC | CS<br>CI<br>CP              | CX |                               |                 |                    |
| 150W          | +52      | +51      | +62               | +72 | ✓                           | ✓  | 1000                          | 66 lbs (30kg)   | 4RU Outline #1     |
| 200W          | +53      | +52.3    | +63               | +73 | ✓                           | ✓  | 1100                          | 81.5 lbs (37kg) | 5RU Outline #2     |
| 250W          | +54      | +53      | +64               | +74 | ✓                           | ✓  | 1400                          |                 |                    |
| 300W          | +55      | +54      | +65               | +75 | ✓                           | ✓  | 1700                          |                 |                    |
| 350W          | +55.5    | +54.5    | +65               | +75 | ✓                           | ✓  | 2000                          |                 |                    |
| 400W          | +56      | +55      | +66               | +76 | ✓                           | ✓  | 2200                          | 99 lbs (45kg)   | 5RU Outline #2     |
| 500W          | +57      | +56      | +67               | +77 | ✓                           | ✓  | 2700                          |                 |                    |
| 600W          | +58      | +57      | +68               | +78 | ✓                           | ✓  | 3500                          | 198 lbs (90kg)  | 8RU Outline #3     |
| 700W          | +58.5    | +57.5    | +69               | +79 | ✓                           | ✓  | 4000                          |                 |                    |
| 800W          | +59      | +58      | +70               | +80 | ✓                           | ✓  | 4500                          |                 |                    |
| 1000W         | +60      | +59      | +70               | +80 | ✓                           | -  | 5500                          |                 |                    |

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## C-Band Rack-mount SSPA/SSPB

### General Specifications

|                                  |                                                                                                                               |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Operating Frequency              | See Table A                                                                                                                   |
| L-Band input (BUC)               | See Table A                                                                                                                   |
| Output Power                     | See Table B                                                                                                                   |
| Gain                             | See Table B                                                                                                                   |
| Gain adjustment range            | 20 dB in 0.1 dB steps                                                                                                         |
| Gain flatness over full band     | ± 1dB max (SSPA), ±1.5dB max (SSPB)                                                                                           |
| Gain slope over 40 MHz           | ± 0.3 dB max                                                                                                                  |
| Gain variation over temperature  | ± 1.5 dB max                                                                                                                  |
| Input Impedance and VSWR         | 50 Ω SSPA VSWR: 1.3:1, isolator on input; SSPB (BUC) VSWR:1.4:1                                                               |
| Output VSWR                      | 1.25:1, isolator protected from infinit VSWR: power detector/shutdown                                                         |
| Noise power density              | -70 dBm/Hz in Transmit Band,<br>-150 dBm/Hz in Receive Band (3.40 – 4.20 GHz)                                                 |
| Spurious at P1dB                 | -60 dBc max                                                                                                                   |
| Harmonics                        | -70 dBc @ P1dB,                                                                                                               |
| AM/PM conversion                 | 2.5°/dB max at P1dB                                                                                                           |
| Third order intermod (two tones) | -26 dBc at 3 dB total power back-off from rated P1dB                                                                          |
| Group delay                      | Linear 0.02 nsec/MHz max<br>Parabolic 0.003 nsec/MHz <sup>2</sup> max<br>Ripple 1 nsec p-p max                                |
| Residual AM Noise                | 0 – 10 kHz: -45 dBc max<br>10 kHz – 500 kHz: -20 (1.25 + log F) dBc max, F = Frequency in kHz<br>500 kHz – 1 MHz: -80 dBc max |

### SSPB (BUC)

|                                                |                                                                                                                                                                                                                                               |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local Oscillator frequency                     | See table A                                                                                                                                                                                                                                   |
| Reference frequency                            | 10 MHz stability ±1.8 over temp range ±2 <sup>-10</sup> /day                                                                                                                                                                                  |
| Phase Noise                                    | -60 dBc/Hz at 10 Hz; -85 dBc/Hz at 10 kHz<br>-65 dBc/Hz at 100 Hz; -95 dBc/Hz at 100 kHz<br>-75 dBc/Hz at 1 kHz; -110 dBc/Hz at 1 MHz                                                                                                         |
| External Reference Frequency phase noise (max) | -115 dBc/Hz at 10 Hz; -150 dBc/Hz at 10 kHz<br>-135 dBc/Hz at 100 Hz; -160 dBc/Hz at 100 kHz<br>-145 dBc/Hz at 1 kHz; -160 dBc/Hz at 1 MHz                                                                                                    |
| Weight & Dimensions                            | See table B                                                                                                                                                                                                                                   |
| AC input voltage                               | Up to 250W output power 195 - 265 VAC, 45-65 Hz,<br>Option -48VDC                                                                                                                                                                             |
| Cooling system                                 | Forced air with front intake                                                                                                                                                                                                                  |
| Interfaces                                     | Input (RF or L-Band) N type female<br>Input / Output Sample Ports N type female, with Calibration Chart<br>RF output CPR-137G (Grooved)<br>AC line IEC 320 inlet<br>RS-232 serial port D-sub 9S<br>RS-485 D-sub 9S<br>Ethernet (option) RJ-45 |
| Environmental                                  | Temperature Operating 0°C to +50 °C<br>Storage -55°C to +85 °C<br>Humidity 5% to 95% non-condensing<br>Altitude 10,000' AMSL, derated by 2 °C/1000' from AMSL                                                                                 |

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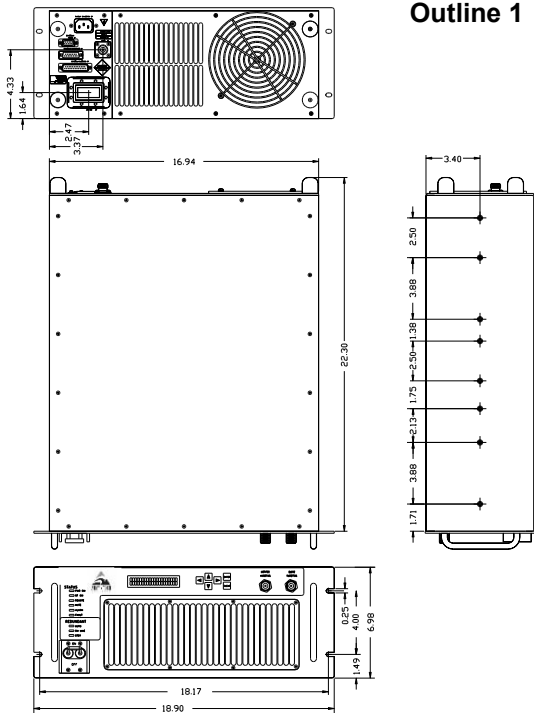
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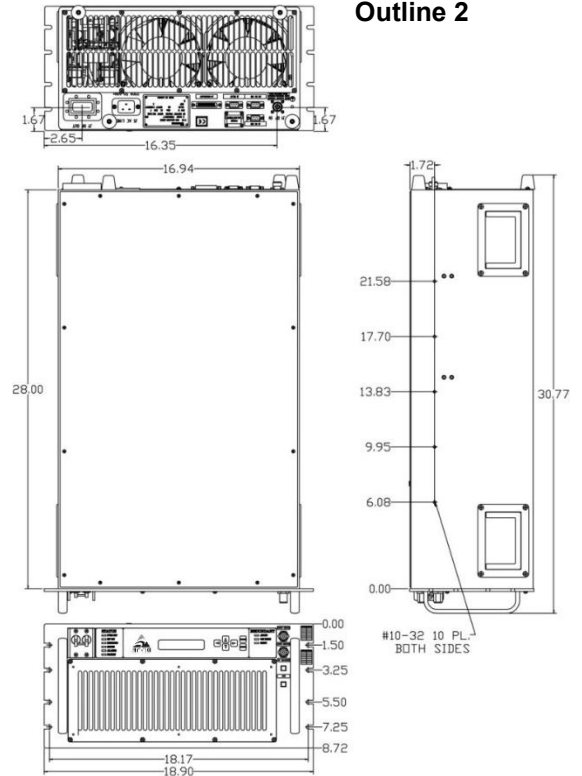
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## C-Band Rack-mount SSPA/SSPB

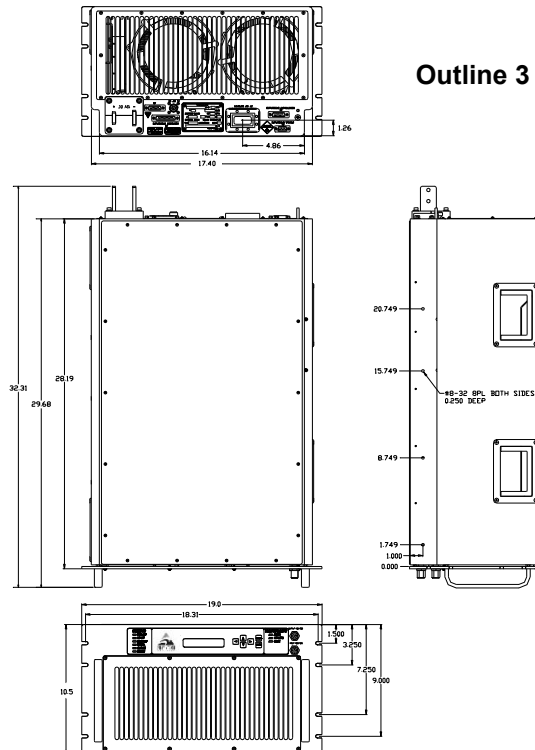
**Outline 1**



**Outline 2**



**Outline 3**



Ref.: PB-ARMA-C-150-1000-001-21070

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