

CriticalPoint™ Public Safety Bi-Directional Amplifier

RXxxV2 PS 700/800MHz BDA (DC Version)

UL 2524 Standard Certified

Features

- Digital Multi-Channel, Field Programmable BDA using FPGA Technology
- Supports public safety 700/800MHz in single band or dual band version
- Supports P25 P1/P2 digital and conventional analog communications simultaneously
- Single band versions include license key to switch between bands
- Single band can be upgraded to dual band via license key
- Class A devices can be configured to Class B via GUI
(Class B devices CANNOT be configured as Class A)
- Each band supports up to 32 narrow band filters (Class A)
- Each band supports up to 3 wide band filters (Class B)
- Channelized Auto Level Control (ALC) / Channelized uplink squelch (Class A)
- **NetProtect** Uplink PA shutdown during no traffic periods to minimize noise being introduced to the network (Class A)
- Built-in mandatory isolation test to prevent BDA oscillation
- Auto shutdown with alarm upon oscillation detection
- Web based GUI for intelligent configuration, SNMP supported
- NFPA compliant dry contact alarms, UL50E Type 4
- **Complies with NFPA 1221 2016 / 2019 edition, IFC 2018 Section 510**
- **FCC: Class A (PX8RXA37)**
- **FCC: Class B (PX8RXB37)**
- **UL 2524 Standard Certified – SGS Certificate No.: SGSNA/20/GZ/00125**



Specifications

| Electrical | | | 700MHz | 800MHz |
|--|------------------|-----|----------------|----------------|
| Total Output Power, Downlink | | dBm | 37 | 37 |
| Total Output Power, Uplink | | dBm | 30 | |
| Maximum System Gain | | dB | 100 | 100 |
| Gain Adjustment Range (1dB step) | | dB | 0-30 | 0-30 |
| Pass Band Ripple, p-p | | dB | ≤ 5 | ≤ 5 |
| Uplink Noise Figure | | dB | ≤ 5 | ≤ 5 |
| Intermodulation | | dBm | ≤ -13 | ≤ -13 |
| Spurious | 9kHz to 1GHz | dBm | FCC Compliance | FCC Compliance |
| | 1GHz to 12.75GHz | dBm | | |
| Maximum RF Input Power without Damage | | dBm | 10 | 10 |
| Maximum RF Input Power without Overdrive | | dBm | -20 | -20 |
| ALC Range | | dB | 60 | 60 |
| Input VSWR | | | ≤ 1.5 | ≤ 1.5 |
| Impedance | | Ω | 50 | 50 |

| Class A | | | | |
|---------------------------|--------------------|------|-------------------------------|-------------------------------|
| Frequency Range, Uplink | | MHz | 799-805 | 806-824 |
| Frequency Range, Downlink | | MHz | 769-775 | 851-869 |
| Filter Bandwidth | | KHz | 12.5/25/75 | 12.5/25/75 |
| Number of Filters | | | 32 | 32 |
| System Group Delay | Bandwidth: 12.5KHz | μsec | ≤ 35 | ≤ 35 |
| | Bandwidth: 25KHz | | ≤ 27 | ≤ 27 |
| | Bandwidth: 75KHz | | ≤ 15 | ≤ 15 |
| Out-of-Band Suppression | Bandwidth: 12.5KHz | dBc | ≥ 80 @ filter center + 75KHz | ≥ 80 @ filter center + 75KHz |
| | Bandwidth: 25KHz | | ≥ 80 @ filter center + 75KHz | ≥ 80 @ filter center + 75KHz |
| | Bandwidth: 75KHz | | ≥ 80 @ filter center + 200KHz | ≥ 80 @ filter center + 200KHz |

| Class B | | | | |
|---------------------------|--|------|--|--|
| Frequency Range, Uplink | | MHz | 788-805 | 806-824 |
| Frequency Range, Downlink | | MHz | 758-775 | 851-869 |
| Filter Bandwidth | | MHz | 0.2-10 | 0.2-10 |
| Number of Filters | | | 3 | 3 |
| System Group Delay | | μsec | ≤ 6.5 | ≤ 6.5 |
| Out-of-Band Suppression | | dBc | ≥ 45 @ filter edge + 0.6MHz ≥ 60 @ filter edge + 1MHz | ≥ 45 @ filter edge + 0.6MHz ≥ 60 @ filter edge + 1MHz |

| Mechanical | | | | |
|------------------------------------|-------------|---------|-------------------------------------|--|
| Dimensions, H x W x D | | in(mm) | 22.4 x 15.4 x 9.0 (570 x 390 x 228) | |
| Weight (without bracket) | | lb(kg) | 66.2 (30) | |
| Power Supply | | VDC | -40 ~ -58 | |
| Power Consumption | Single band | W | 135 | |
| | Dual band | W | 175 | |
| Enclosure Cooling | | | Convection | |
| RF Connectors | | | N-Female | |
| Test Port | | | SMA, -27dB | |
| Maximum Input for Dry Contact Port | | | 24VDC, 1A / 110VAC, 0.5A | |
| Operating Temperature | | °F (°C) | -27 to +140 (-33 to +60) | |
| Operating Humidity | | | ≤ 95% | |
| Environmental Class | | | UL50E Type 4 | |
| MTBF | | hr | ≥ 100,000 @ 77 °F | |

Note: Typical specifications at room temperature.

Part Numbers

| Configuration | 37dBm DC Class A | 37dBm DC Class B |
|----------------------|------------------|------------------|
| Single band 700MHz | RX07V2-A3748-UL | RX07V2-B3748-UL |
| Single band 800MHz | RX08V2-A3748-UL | RX08V2-B3748-UL |
| Dual band 700/800MHz | RX78V2-A3748-UL | RX78V2-B3748-UL |

| License | |
|--|-----------------|
| Class A, Single Band to Dual Band upgrade license | RX78V2-L37-AASD |
| Class B, Single Band to Dual Band upgrade license | RX78V2-L37-BBSD |
| Single Band, Class B to Class A upgrade license | RX78V2-L37-BASS |
| Dual Band, Class B to Class A upgrade license | RX78V2-L37-BADD |
| Class B to Class A, Single Band to Dual Band upgrade license | RX78V2-L37-BASD |

Mechanical Drawing

