

# CriticalPoint™ Public Safety Bi-Directional Amplifier

## RXxxV2 PS 700/800MHz BDA (AC Version)

### 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 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)
- 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, NEMA 4 enclosure
- **Complies with NFPA 1221 2016 / 2019 edition, IFC 2018 Section 510**
- **FCC: Class A (PX8RXA37) / IC: 11919A-RXV2A37**
- **FCC: Class B (PX8RXB37) / IC: 11919A-RXV2B37**
- **AC: UL 62368-1 & UL 60950-22 Standards Certified – SGS Certificate No.: SGSNA/21/GZ/00139**



### 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

<b>Class A</b>			
Frequency Range, Uplink	MHz	US: 799-805 CA: 798-806	US: 806-817 CA: 806-824
Frequency Range, Downlink	MHz	US: 769-775 CA: 768-776	US: 851-862 CA: 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
	Bandwidth: 25KHz		≤ 27
	Bandwidth: 75KHz		≤ 15
Out-of-Band Suppression	Bandwidth: 12.5KHz	dBc	≥ 80 @ filter center + 75KHz
	Bandwidth: 25KHz		≥ 80 @ filter center + 75KHz
	Bandwidth: 75KHz		≥ 80 @ filter center + 200KHz

<b>Class B</b>			
Frequency Range, Uplink	MHz	US: 788-805 CA: 798-806	US: 806-817 CA: 806-824
Frequency Range, Downlink	MHz	US: 758-775 CA: 768-776	US: 851-862 CA: 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

<b>Mechanical</b>			
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	VAC	100-240/47-63Hz	
Power Consumption	Single band	W	135
	Dual band	W	165
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		NEMA 4	
MTBF	hr	≥ 100,000 @ 77°F	

Note: Typical specifications at room temperature.

## Part Numbers

Configuration US version	37dBm AC Class A	37dBm AC Class B
Single band 700MHz	RX07V2-A37AC	RX07V2-B37AC
Single band 800MHz	RX08V2-A37AC	RX08V2-B37AC
Dual band 700/800MHz	RX78V2-A37AC	RX78V2-B37AC

Configuration CA version	37dBm AC Class A	37dBm AC Class B
Single band 700MHz	RX07V2-A37AC-CA	RX07V2-B37AC-CA
Single band 800MHz	RX08V2-A37AC-CA	RX08V2-B37AC-CA
Dual band 700/800MHz	RX78V2-A37AC-CA	RX78V2-B37AC-CA

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

