

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)
- 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) / IC: 11919A-RXV2A37**
- **FCC: Class B (PX8RXB37) / IC: 11919A-RXV2B37**
- **UL2524 2nd Edition Listing with SGS, Nationally Recognized Testing Laboratory (NRTL) approved by OSHA for UL2524 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	FCC Compliance	FCC Compliance
	1GHz to 12.75GHz		
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	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	μ sec	≤ 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	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		μ sec	≤ 6.5 ≤ 6.5
Out-of-Band Suppression		dBc	≥ 45 @ filter edge + 0.6MHz ≥ 45 @ filter edge + 0.6MHz ≥ 60 @ filter edge + 1MHz ≥ 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	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		$^{\circ}$ F ($^{\circ}$ C)	-27 to +140 (-33 to +60)
Operating Humidity			$\leq 95\%$
Environmental Class			UL50E Type 4
MTBF		hr	$\geq 100,000$ @ 77 $^{\circ}$ F

Note: Typical specifications at room temperature.

Part Numbers

Configuration US version	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

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

