Ruggedized and Weatherproof SDR Platforms

RB210

Preliminary

KEY FEATURES

- Ruggedized version of NI (Ettus Research brand) B210 Series Software Defined Radio
- Conduction-cooled construction optionally designed to meet MIL 810 for shock/ vibration and MIL 461 for EMI
- IP67 weatherproof sealed unit (except air cooled version)
- Other similar NI small form factor SDR versions are available upon request
- Customizable I/O options
- Anti-vandal pushbutton on/off switch
- Pole-mount and other mounting options available
- Contact Pixus for ruggedization options for other NI SDRs

The Pixus Technologies RB210 is a ruggedized version of National Instruments (Ettus Research brand) B210 Software Defined Radio. Working with NI, Pixus redesigned the commercial version of the product to create a hardened, sealed, conduction-cooled unit to meet IP67 specifications. There are options to further ruggedize the unit to MIL 810 for shock/vibration and MIL 461 for EMI.

The RB210 series can be used in various types of airborne, shipboard, soldier mount, ground vehicle, or outdoor designs. Example applications include SIG-INT, passive RADAR, Drone Deterrence/Spoofing and prototyping systems for advanced wireless (WiFi/Cell/MIMO).

Contact Pixus for ruggedization inquiries for other SDRs from NI. Visit www.ettusresearch.com for SDR specifications.

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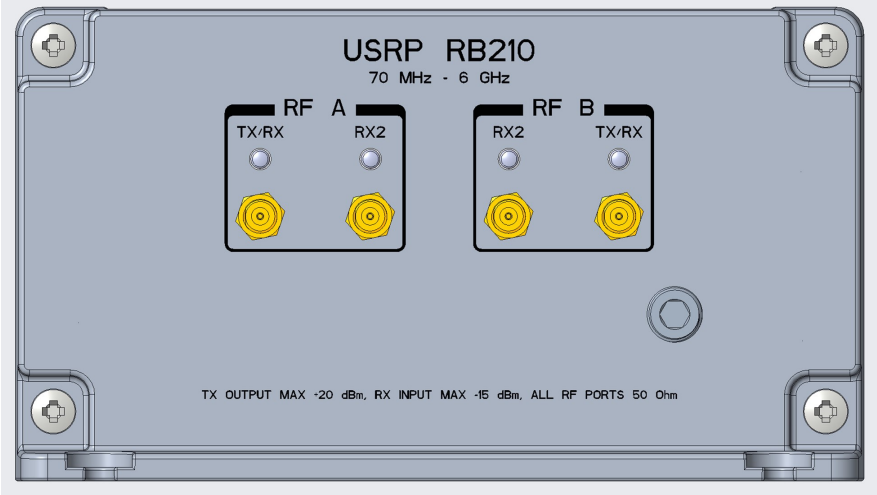
I/O Configurations & Power

Pixus offers a standard I/O configuration for the IP67 RB210 (see below) and other SDRs. The modular front and rear faceplates are also customizable. Consult Pixus to discuss your specific requirement. The RB210 comes with a loose connector that can be terminated by the user to the application's power source (via crimp or solder). For powering the unit in a lab/test environment, see P/N SPS0006 in the Accessories section. Please note that the MIL rugged version requires modification to the I/O details below. The unit standardly runs on 12VDC power. For versions that require an internal heater for low-temp applications, the power will utilize 24VDC or 48VDC.



Front I/O

Rear I/O

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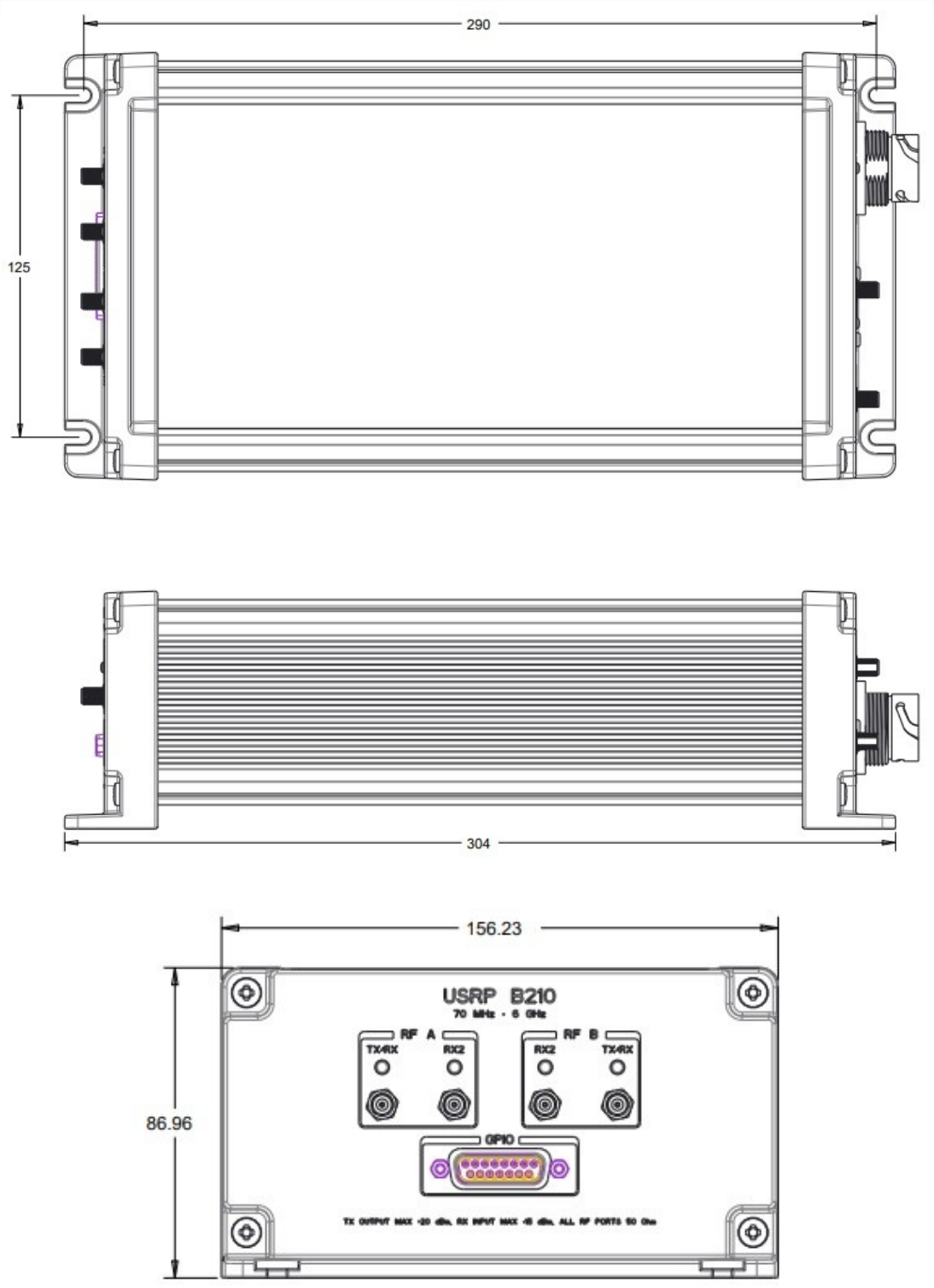
Drawings—IP67 Version



The drawings above are for the IP67 version. The MIL-spec version is slightly larger (contact factory for details).

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Ruggedization Levels

The RB210 was initially designed to meet IP67 waterproof specifications in a rugged, conduction-cooled design. The unit standardly meets –20C to 71C temperature ranges.

To meet MIL specifications for shock/vibration, there are modifications required to utilize 38999 connectors and internal bracing. Pixus also offers a light-rugged solution providing –20C to +71C temperature range and transport grade shock/ vibration levels in an air-cooled configuration.

The RB210 is a chassis platform for the end customer/integrator to incorporate their software, interface, and mounting options. As such, it is up to the integrator to provide end application testing to the applications' requirements. Pixus will guarantee that we will meet agreed upon ruggedization levels. The numbers below are what the units are designed to meet. Contact Pixus for more details or to discuss co-testing options.

	Air cooled	Conduction cooled	Shock/vibration	IP67	Environmental/EMI
Light-rugged	Temp: - 20C to 71C	N/A	Transport grade	N/A	Not sealed. Various EMI level options.
Rugged IP67, not MIL-grade	Custom only	-10C to 50C, With heater: - 40C to 71C	~ 15G shock, above Transport grade	Yes	Fully sealed, MIL461 EMI
MIL Spec Rugged	Custom only	-10C to 50C, With heater: -40C to 71C	~ 20-25G shock, meet various MIL810 specs	Yes	Fully sealed, MIL461 EMI

Specification Notes

Dimensions of the MIL version are TBD. The weight of the IP67 version is ~7 lbs.

Interface Connectors

Pixus provides the mating connectors to the external I/O interfaces except for the fiber connector. Contact Pixus to discuss what mating fiber connector options are available by 3rd parties.

ORDERING OPTIONS

RB210-ABC-DEF-XX

A = Type

0 = Standard RB210 type
1 = Other

B = I/O Configuration

0 = Standard I/O with GPIO connector included
1 = Other
2 = Standard version as shown on page 2

C = Ruggedization Level

0 = IP67, Rugged (standard)
1 = Semi-Rugged, air cooled w/filter
2 = Reserved
3 = MIL 810/410 Rugged, IP67
4 = Other

D = Light Indicator Setting

0 = Light indicators connected, lit
1 = Light indicators not connected, dark

E = Mounting

0 = Standard mounting
1 = Other

F = Heater Installation

0 (or blank) = no heater installed, 12V power
1 = Heater installed for low-temp apps, 24V power
2 = Other

2 digit customization code

Blank = standard, no customization

ACCESSORIES

Power Supply Kit P/N: SPS0006

The SPS0006 comes with a C13 IEC inlet for AC input and an RX310 compatible connector for the DC output. The part number for the air cooled version is SPS0009. https://www.ettus.com/all-products/12v-pwr/