

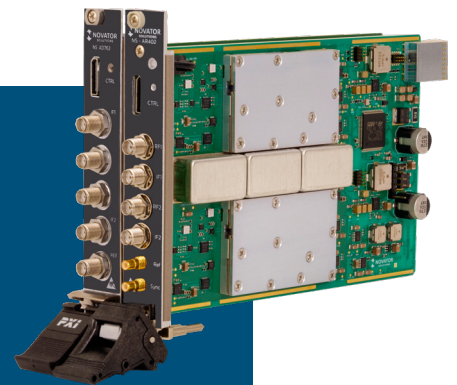
RF Receiver Module

RXD612

RXD612 is a cost-effective, phase-coherent RF receiver module ideal for over-the-air RF measurements or testing communications devices. Built on the modular PXI platform and state-of-the-art software defined radio technology, this receiver module can be used for monitoring, scanning and test applications. RXD612 has 2 independently-tunable RF input channels with 80 MHz of instantaneous bandwidth each. RXD612 is well suited to use in testing devices including: narrowband communications devices; satellite payloads; electronic ground support equipment (EGSE); and beacons, interrogators and transponders.

Highlights

- 2 RF receiver channels
- Frequency range: 1 MHz - 6 GHz
- 160 MHz aggregated bandwidth
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High Sensitivity and Dynamic Range

The RXD612 delivers an aggregated bandwidth of up to 160 MHz across a frequency range of 1 MHz to 6 GHz. Its high sensitivity and dynamic range enable operators and engineers to capture both weak and strong signals concurrently, ensuring reliable performance across demanding RF environments and test scenarios.

Cost Efficiency is Paramount

RF monitoring and testing can be resource-intensive, often requiring multiple receivers to cover different bands. Built on advanced software-defined radio technology, the RXD612 provides 2 RF input channels within 2 slots of PXI. This reduces system complexity and cost per channel while maintaining high-performance signal acquisition.

Independent and Phase-Coherent Tuning

Each RF input channel supports a real-time bandwidth of 80 MHz. Independent tuning allows each channel to be positioned anywhere within the 1 Hz to 6 GHz frequency range. The RXD612 also supports phase-coherent tuning, enabling precise multi-channel analysis and making it well suited to applications such as direction finding, signal comparison, and advanced RF testing.

Versatile, Flexible and Customisable Receiver Platform

The RXD612 combines Novator Solutions' proprietary RF receiver technology with the NI FlexRIO PXIe-5763 digitizer, delivering a powerful and flexible solution within a 2-slot PXI module. It is ideal for integration into existing PXI-based systems and supports both defence and commercial workflows, including COMINT and test environments.

Technical Specifications RXD612

Receiver	
RF receiver channels (Rx)	2, SMA connectors
Frequency range	1 MHz - 6 GHz
Instantaneous bandwidth	80 MHz per RF input, individually tunable
FFT width	4k - 256k point FFT
Dynamic Range	112 dB
SFDR Single Tone	85 dBc @ 10,1 MHz (direct path) 80 dBc @ 123.1 MHz (superheterodyne path)
Phase Noise	10 & 100 kHz Offset -98 dBc/Hz 1 MHz Offset -109 dBc/Hz 10 MHz Offset -135 dBc/Hz
VSWR	2.35:1
Noise Figure	6 dB (LNA)
Sensitivity (DANL)	-163 dBm/Hz
Linearity	IP3 +10 dBm
IF Rejection	80 dB
Image Rejection	80 dB
Filter bank 2-100 MHz	HP filters: 2, 20, 30 MHz LP filters: 30, 40, 83, 100 MHz FM notch filter
Filter bank 100-450 MHz	Tunable low and high pass filters, min 20 MHz bandwidth
Sub-octave preselectors	390 - 620 MHz 540 - 850 MHz 770 - 1210 MHz 1130 - 1760 MHz 1680 - 2580 MHz 2500 - 3880 MHz 3800 - 6000 MHz
Internal reference clock @100 MHz	Phase noise: -129 dB/Hz @10 kHz
Synchronization	Standard: PPS & external 10 MHz reference Option: GPS, IRIG-B
Mechanical / Environmental	
Form factor	4U - 19" rack mountable chassis
Operating altitude	3,000 m

Novator Solutions AB, part of Defensor Group, is at the forefront of SIGINT and EW technology. Our highly skilled R&D team combines expertise in high-speed data processing and software defined radio (SDR) technology to develop cutting-edge monitoring receivers and RF signal recorders. Our software proficiency, combined with modular hardware designs, allows us to create customised solutions that meet specific project and mission needs.



Mail: info@novatorsolutions.se
Call: +46 8-622 63 50
Visit: novatorsolutions.com

