



peralex
the sense of signals



NRG9009 SDR



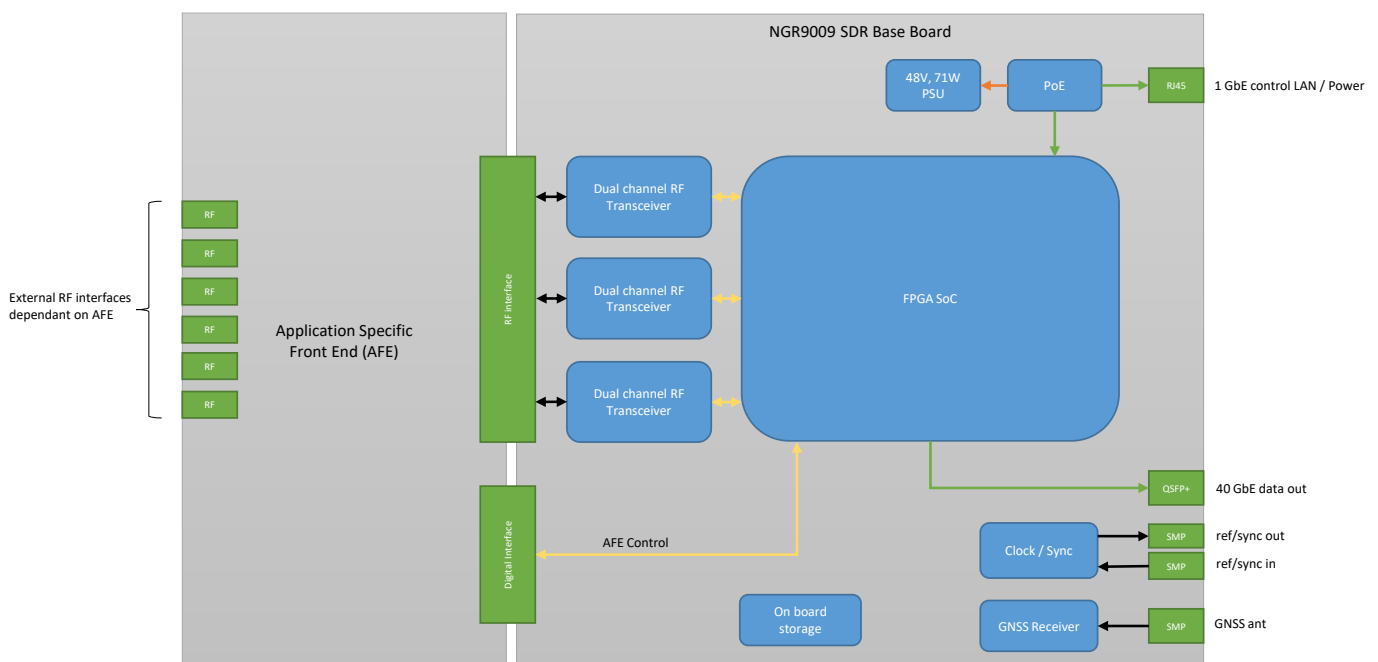
Overview

The NRG9009 SDR is a high-performance multi-channel software defined radio (SDR) platform ideal for radio applications demanding performance and reliability in a low SWaP form factor. It features six coherent receive and/or transmit channels, each with a bandwidth of up to 200 MHz. The data is interfaced via 40 GbE fibre that provides ample throughput for the most demanding SDR applications.

The NRG9009 SDR's modular architecture provides flexibility: the analog RF circuitry of the receiver is designed as a customisable module called the Analog Front End (AFE). A standard wideband AFE is available that provides 6 receive channels that cover the frequency range of 20 to 6 GHz with exceptional sensitivity. Other AFE options are available on request.

Key Features

- ▶ 20 MHz – 6 GHz frequency range
- ▶ Max instantaneous bandwidth of 200 MHz
- ▶ 6 channels of transmit and receive
- ▶ IP rated pole-mount enclosures for outdoor applications as well as indoor rack-mount enclosure options
- ▶ High performance RF specifications
- ▶ Standard API for software integration
- ▶ Integrated GPS with GPSDO enabling applications that require high accuracies of frequency and timing
- ▶ Option to synchronise two units to create a 12 channel coherent transceiver



Functional Block Diagram

Enclosure Options

Two enclosure options are available. The outdoor enclosure is designed for pole mount applications where the SDR can be conveniently co-located with the antenna, eliminating the need for lengthy RF cables. This enclosure uses passive cooling and is rated to IP67.



Outdoor Enclosure



Indoor Enclosure

The indoor enclosure provides a versatile compact form factor for desktop or rackmount (1U height, 19" width) applications.

Receiver Specifications

Parameter	Specification
Frequency range ¹	20 – 6 GHz
Number of RF channels	6
Phase noise ¹	≤ -115 dBc/Hz (100 MHz, Δf=10 kHz)
IP2 ¹	≥ 60 dBm
IP3 ¹	≥ 19 dBm
Noise figure ¹	≤ 9 dB
AGC dynamic range ¹	130 dB
Maximum instantaneous bandwidth	200 MHz
GNSS	16 Channel, ≤ 2.5 m CEP Accuracy Constellations: GPS, GLONASS, BeiDou
Frequency accuracy	≤ 2 ppb (with GNSS lock)
Size	<u>Indoor enclosure:</u> 19" rack mount (1U high, 250 mm depth) <u>Outdoor enclosure:</u> 415 x 288 x 90 mm
Weight	<u>Indoor enclosure:</u> 6 kg <u>Outdoor enclosure:</u> 11.5 kg
Power supply	PoE IEEE 802.3bt
Power consumption	≤ 71 W
Operational temperature ²	-10 °C to +55 °C
Shock and vibration	MIL-STD-810F
EMC	MIL-STD-461C IEC 61000—4-2/6 CISPR 22 CLASS B
Data interface	Control: 1 GbE LAN (1000BASE-T) Data: 40 GbE fibre

¹: RF specifications are with WB AFE option

²: Dependant on AFE option

USA DISTRIBUTION BY:

Cyntony Corporation
195 Follen Road
Lexington, Massachusetts
sales@cyntony.com
781-430-0675



NRG9009 SDR Brochure v0.03

This specification is not contractual and is subject to change without notice.

www.peralex.com

tel: +27 21 710-7440 • email: peralex-information@peralex.com
Peralex House, 5 Dreyersdal Road, Bergvliet 7945, Cape Town
PO Box 215, Bergvliet 7864, South Africa