

NanoCom SDR MK3

GOMSPACE



SPEED



VERSATILE



RELIABLE

GomSpace's NanoCom SDR MK3 is a fully configurable and versatile Software Defined Radio, designed for RF payload application development.

GomSpace's flight proven NanoCom SDR MK3 is a uniquely modular and compact high performance SDR platform, built to support custom RF applications. Featuring a powerful Zynq®7030/45 System on a Chip (SoC) at its core, its small form factor can incorporate up to three NanoCom TR600 MK3 Transceivers, each offering 2xRX and 2xTX Channels, making it a truly flexible, versatile, and cost-effective solution.

This flexibility allows a very wide range of custom applications. Whether high data rate intensive applications such as SIGINT/Spectrum Monitoring, or custom broadband and multiband communications, or even narrowband IoT and tracking solutions, NanoCom SDR MK3 can be configured for the mission.

With hardware prepared for Store and Forward, NanoCom SDR MK3 is also a perfect choice for custom intersatellite link / crosslink solutions for constellations or Non-Terrestrial Network data relay applications.

NanoCom SDR MK3 comes with a wealth of configurable I/O and is complemented by Gomspace's wide portfolio of antenna solutions to aid quick, efficient, and flexible integration. For rapid development of custom SDR applications, Gomspace provides a comprehensive development kit as well as an optional, in depth, SDR standard training course which includes time for customer specific topics.



Technical Information

NANOCOM SDR MK3	
SoC	Xilinx Zynq 7030/7045 Programmable SoC. <ul style="list-style-type: none"> Dual ARM Cortex A9 MPCore, clocked up to 800 MHz Powerful FPGA module – 125K / 350K logic cells
Volatile Memory	1024MB DDR3 (512MB with ECC enabled)
Non-volatile Memory	256 MB NOR flash 70GB eMMC (pSLC) and 233GB eMMC (MLC) with SEU bit flip detection
Mechanical dimensions	95 mm x 95 mm x 31.5 mm (with 3 x TR600)
Mass	240g
Radiation	20 kRad TID

KEY BASEBAND INTERFACES	
SpaceWire	SpaceWire x3, data link/network layer
USB	x1, host/device
Fully Configurable FPGA I/O	11 x LVDS pairs, 10 x I/O
Conditionally Configurable FPGA I/O	12 x LVDS pairs (or Spacewire), 8 x I/O (or RS-485)
Conditionally Configurable ARM I/O	6 x I/O (or eMMC#2)
Others	CAN/SPI/RS422/RS485/PPS

KEY RF INTERFACES / SPECIFICATIONS	
Transceiver support	Up to 3 x NanoCom TR600 MK3 reconfigurable transceivers
Transceiver I/O	Each TR600 transceiver - 2RX and 2TX transceiver RF Inputs/Outputs
Transceiver connectors	SMPM RF connectors and Picoblade connector for Front End control
Frequency Band	70 MHz to 6 GHz
Tunable Channel bandwidth	200 KHz to 56 MHz
Resolution	12-bit DACs and ADCS

SUPPORT*	
Free** Platform Development Kit (PDK)	Software Development kit for the Zync 7000 Processing System (PS) plus Xilinx Vivado tool for programmable logic (PL) design <ul style="list-style-type: none"> 7030 – Free licence for Vivado 7045 – **Requires Vivado licence, please contact Xilinx directly
Training	Comprehensive SDR training Contact sales@gomspace.com for more information

* NanoCom SDR MK3 includes development kits for getting started with software application and FPGA firmware development. The PL and PS stack is provided as fully customizable source code. The development kits are actively maintained against new BSP and tool releases from Xilinx, as well as new features introduced by various open source components within the Yocto Project.



SPEED

- High Bandwidth communications
- SIGINT/Spectrum Monitoring
- Data Relay



VERSATILE

- Highly Modular
- Multiple Transceiver support
- Fully customizable applications



RELIABLE

- Flight Proven
- GomSpace Qualification
- SEU bit flip detection