

## 1. OVERVIEW

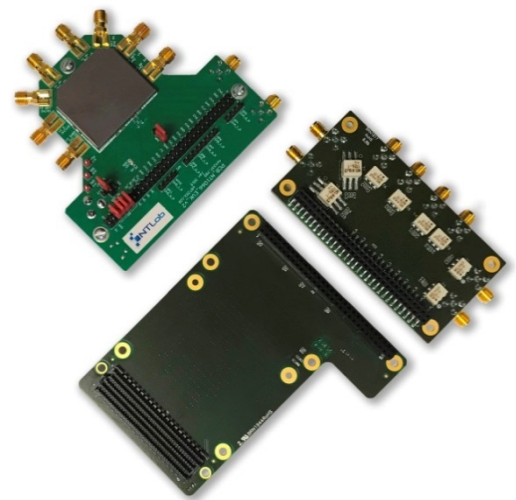
NT1066 EVK is intended for prototyping of navigation receivers based on NT1066: 4-Channel RF Front-End IC (3 wideband IQ and 1 narrowband IQ) that covers all GNSS (GLONASS, GPS, Galileo, BeiDou, QZSS, NavIC) signals at all frequency bands (L1, L2, L3, L5, E1, E5a, E5b, E6, B1, B2, B3 and S) and can be 'on a fly' software-reconfigured to receive real-time corrections data transmitted over FM, VHF and UHF bands. NT1066\_EVK can be also used as evaluation platform for performance and capabilities demonstration of NT1066.

PCB\_NT1066\_EVK is available as standalone board or with output data interface extensions: analog unbalanced output data interface extension or digital LVDS output data interface extension, that can be ordered as additional modules. PCB\_NT1066\_EVK itself has PLD connector for wiring outputs and controls to any external development platforms. For in-lab examining analog unbalanced output data interface extension with SMA connectors can be connected to measurement equipment like spectrum analyzer, oscilloscope, network analyzer etc. Digital LVDS output data interface extension with output FMC connector can be used to build your system prototype on the platform you got used to work with.

Wide list of attractive features and high level of customization make NT1066 capable to meet a demand of researchers and OEM developers in special applications: high precision positioning, goniometric, driverless car systems, professional drones and related areas.

## 2. KEY FEATURES

- IO ports:
  - Three 50Ω SMA input connectors for L1, L2, L3, L5 bands of GNSS signal reception (recommended for passive or low gain antennas)
  - Three 50Ω SMA input connectors for L1, L2, L3, L5 bands of GNSS signal reception (recommended for active antennas)
  - 50Ω SMA input connector for S band or L2, L3, L5 bands of GNSS signals reception
  - 50Ω SMA input connector for real-time corrections data reception
  - Every channel individual IF output ready to connect either as digital or analog differential signal. Single-ended IF outputs are also available as output data interface extension
  - FMC LPC connector compatible to PicoZed FMC Carrier V2 and FPGA development boards: ZC706/ML605/ Arria V GX and other boards with LPC//HPC connector
  - SMA input connector for external reference frequency
  - External sampling frequency input ready to connect either as CMOS, LVDS or single-ended sinewave
  - Clock output ready to connect either as CMOS, LVDS or single-ended sinewave
  - Embedded USB to SPI convertor for NT1066 registers configuration
- On-board reference frequency source:
  - 10 MHz 0.28ppm high-stability TCXO
- Additional modules:
  - 1-to-5 RF splitter
  - Analog unbalanced output data interface
  - Digital LVDS output data interface
- Comprehensive software and documentation:
  - NT1066 datasheet
  - NT1066 EVK user manual
  - GUI for NT1066 registers access (Windows 7/8/8.1/10 and Linux Ubuntu 18.04 compatible)
  - NT1066 configuration examples
  - FPGA firmware example for signals processing and NT1066 configuration
  - Database of reference design



## 3. STRUCTURE

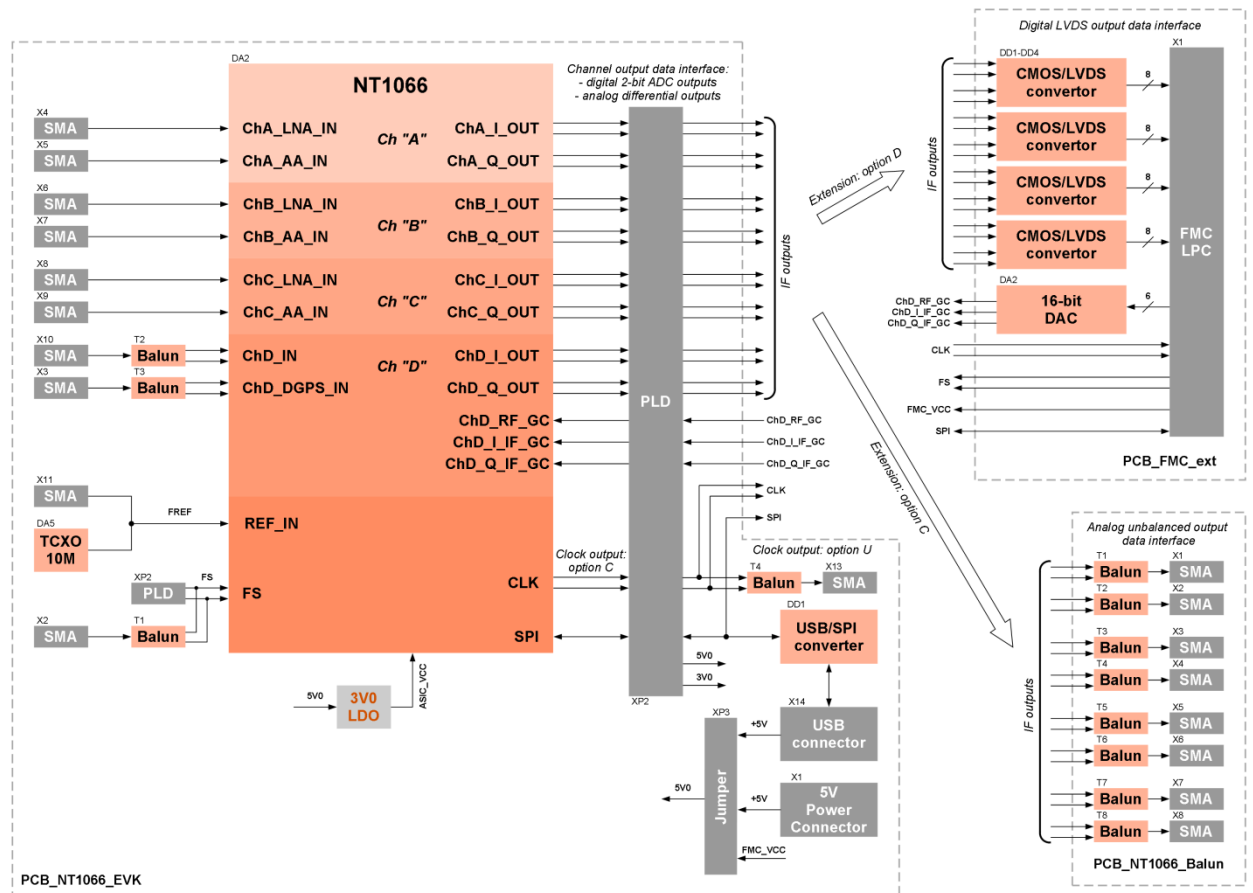


Figure 1: Block diagram

## 4. ORDERING INFORMATION

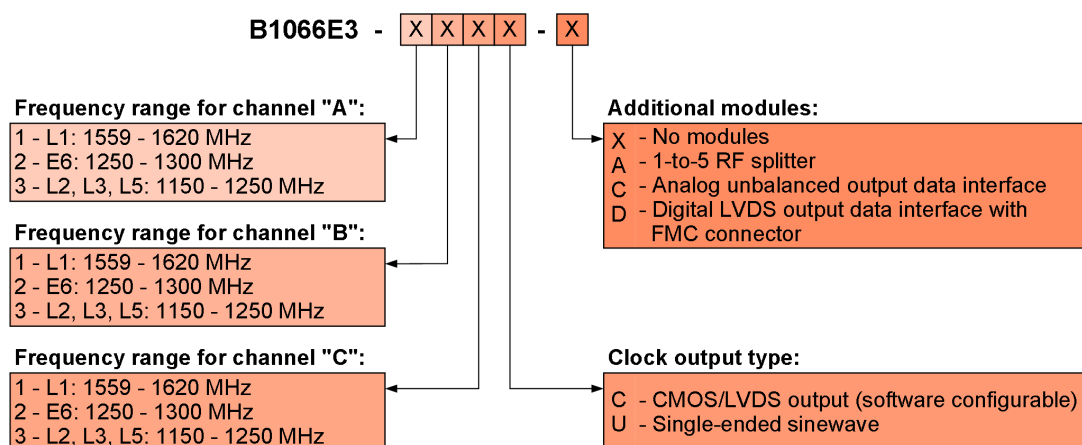


Figure 2: Ordering information

If several additional modules are required, please, add corresponding symbols consistently, e.g. B1066E3-123C-CD, then along with PCB\_NT1066\_EVK you will get analog unbalanced output data interface extension (PCB\_NT1066\_Balun) and digital LVDS output data interface extension (PCB\_FMC\_ext).

Refer to document [RF\\_Splitter\\_1\\_to\\_5\\_vx.x.pdf](#) for splitter description and assembly options.

Clock output type option **U** is not compatible with additional module option **D**.