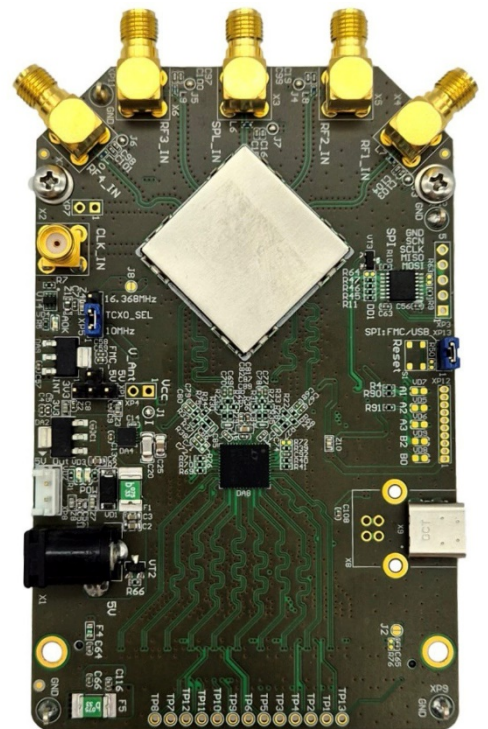


1. OVERVIEW

NT1068.2_FMC is a FPGA Mezzanine Card intended to demonstrate performance and capabilities of NT1068.2: 4-channel GPS/GLONASS/Galileo/BeiDou/NavIC/QZSS S, L1, L2, L3, L5, E1, E5a, E5b, E6, B1, B2, B3 band RF Front-End IC. All outputs and controls are routed to FMC connector, which allows to mount FPGA Mezzanine Card to any compatible FPGA to build your system prototype with the platform you got used to work with.

2. KEY FEATURES

- IO ports:
 - RF splitter input with active antenna supply option
 - Every channel individual RF input with active antenna supply option
 - External reference frequency input (TCXO)
 - FMC LPC connector compatible to PicoZed FMC Carrier V2 and FPGA development boards: VC707 / ZC706 / ZC702 / ML605 / Arria V GX and other boards with LPC or HPC connector
 - 2-bit @ 50MSPS NT1068.2 output or 12/14-bit @ 105MSPS external ADC output (optional)
 - Embedded USB to SPI adapter for NT1068.2 registers configuration
- On-board reference frequency sources:
 - 10 MHz TCXO
 - 16.368 MHz TCXO
- Additional modules:
 - 1-to-4 RF splitter
 - 2-to-4 RF splitter
 - 4-channel RF LNA preselector
 - 1-to-5 RF splitter (SPL15-45514 or SPL15-465X5 recommended)
- Comprehensive software and manual:
 - NT1068.2 datasheet
 - NT1068.2_FMC user manual
 - GUI for NT1068.2 registers access (Windows 7/8/8.1/10 and later compatible; Linux Ubuntu 18.04 and later compatible)
 - FPGA project for signals acquisition and NT1068.2 configuration
 - NT1068.2 configuration examples
 - Database of reference design



3. PACKAGE CONTENT

- NT1068.2_FMC demo board
- Power supply cable and interface cable for NT1068.2_FMC
- Mounting Set
 - Four screws M2,5x6
 - Four insulating washers
 - Two female-female standoffs
- [Link to online documentation and GUI](#)

4. STRUCTURE

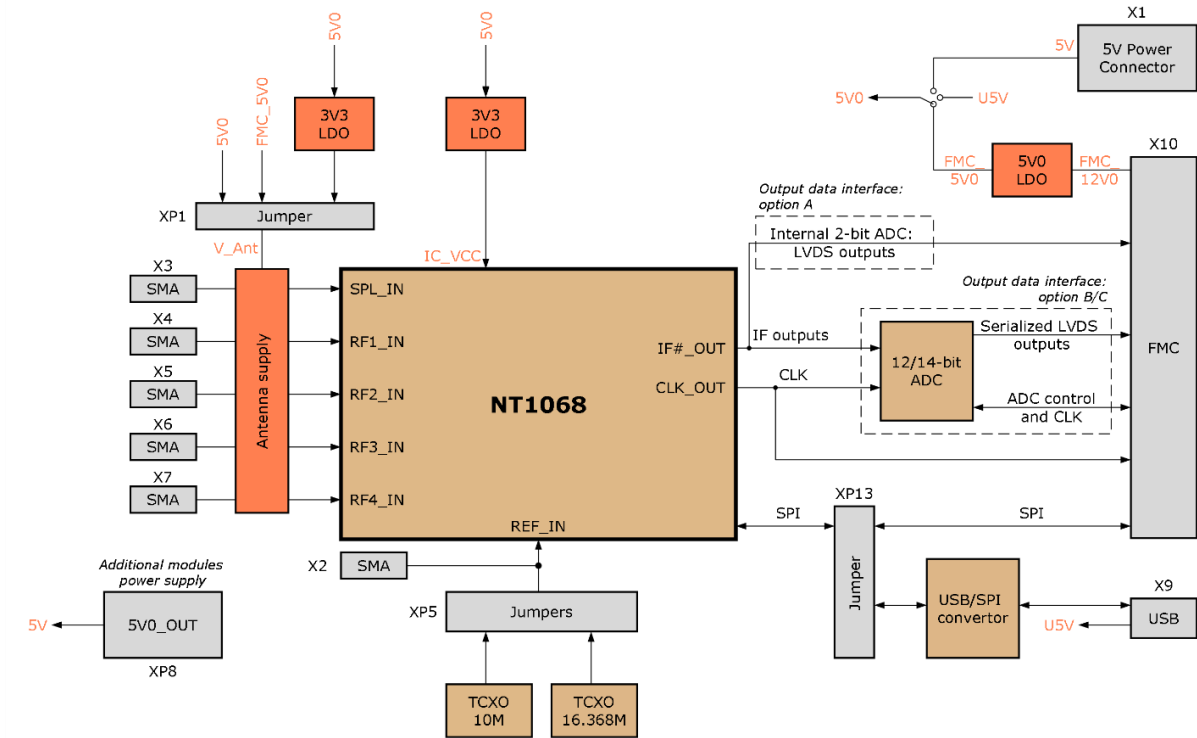


Figure 1: Block diagram

5. ORDERING INFORMATION

B1068F2 - **X** **X** **X** - **Y**

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Additional modules:

- X - No modules
- A - 1-to-4 RF splitter
- B - 2-to-4 RF splitter
- C - 4-channel RF preselector
- D - 1-to-5 RF splitter

Output data interface:

- A - 2-bit (LVDS from internal ADC)
- B - 12-bit (2-lane LVDS from LTC2174-12)
- C - 14-bit (2-lane LVDS from LTC2174-14)

Frequency range for channels 3# and #4:

- 1 - L1: 1530 – 1620 MHz
- 2 - L2/L3/L5: 1150 – 1250 MHz
- 3 - S: 2460 – 2530 MHz
- 4 - L1 for channel #3 + L3/L5 for channel #4

Frequency range for channels #1 and #2:

- 1 - L1: 1530 – 1620 MHz
- 2 - L2/L3/L5: 1150 – 1250 MHz
- 3 - S: 2460 – 2530 MHz
- 4 - S for channel #1 + L2 for channel #2
- 5 - L3 for channel #1 + E6 for channel #2

If several additional modules are required, please, add corresponding symbols consequently, e.g. B1068F2-44A-AB. Refer to documents [NT1065_Additional_modules_vx.xx.pdf](#) and document [RF_Splitter_1_to_5_vx.x.pdf](#) for description and assembly options.