# 1. OVERVIEW

NT1065_FMC2 is a FPGA Mezzanine Card intended to demonstrate performance and capabilities of NT1065: 4-channel GPS/GLONASS/Galileo/BeiDou/NavIC/QZSS 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:
    - 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 NT1065 output or 12/14-bit @105MSPS external ADC output (optional)
- On-board reference frequency sources:
    - 10 MHz 0.28ppm high-stability TCXO
    - 24.84 MHz 1.5ppm TCXO
- Additional modules:
    - 1-to-4 RF splitter
    - 2-to-4 RF splitter
    - 4-channel RF LNA preselector
    - 1-to-5 RF splitter
- Comprehensive software and manual:
    - NT1065 datasheet
    - NT1065_FMC2 user manual
    - GUI for NT1065 registers access (Windows 7/8/8.1/10 and Linux Ubuntu 16.04 compatible)
    - FPGA project for signals acquisition and NT1065 configuration
    - NT1065 configuration examples
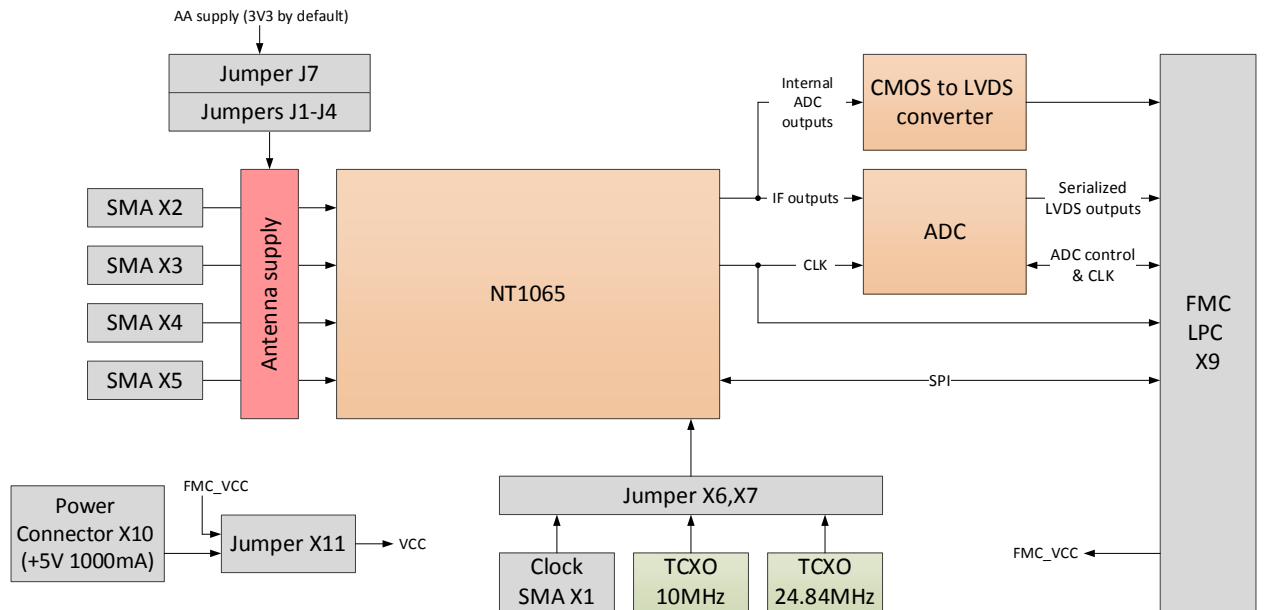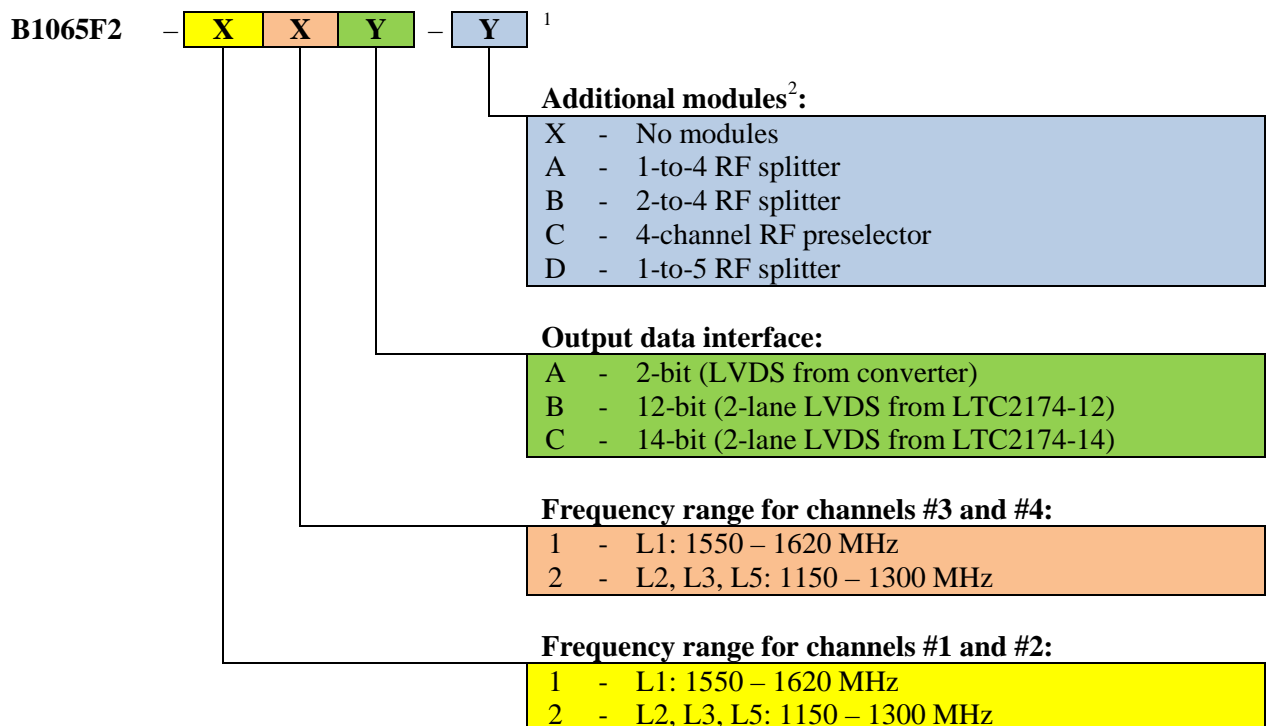   - Database of reference design
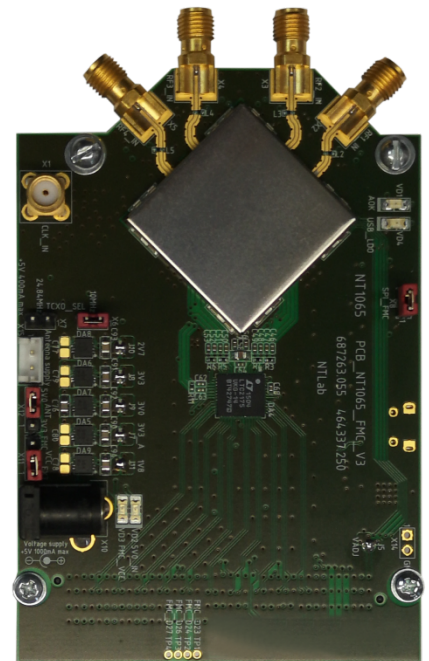
3. STRUCTURE

Figure 1: Block diagram

4. ORDERING INFORMATION

B1065F2 – **X** **X** **Y** – **Y** [1]

Additional modules[2]:

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 converter)
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: 1550 – 1620 MHz
2	-	L2, L3, L5: 1150 – 1300 MHz

Frequency range for channels #1 and #2:

1	-	L1: 1550 – 1620 MHz
2	-	L2, L3, L5: 1150 – 1300 MHz

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[1] Assembly options B1065F2–11C and B1065F2–12A are in stock, lead time – 1-2 week(s). Other options are available upon request, lead time – 1-2 month(s).

[2] If several additional modules are required, please, add corresponding symbols consequently, e.g. B1065F2–12A–AB. Refer to documents NT1065_Additional modules_vx.xx.pdf and RF_Splitter_1_to_5_vx.x.pdf for description and assembly options.