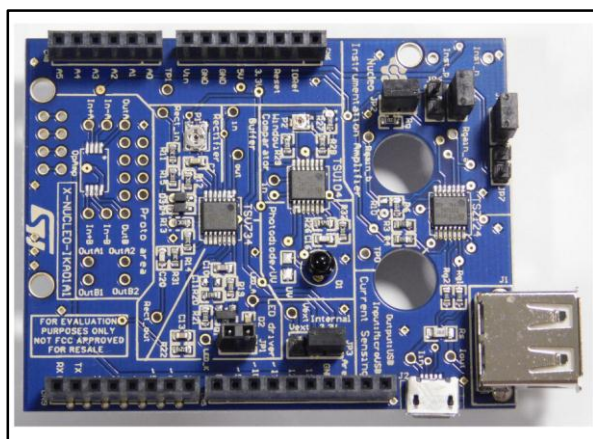


## Multifunctional expansion board based on operational amplifiers for STM32 Nucleo

Data brief



### Features

- 7 predefined configurations:
  - Instrumentation amplifier structure
  - Current sensing with or without USB
  - Photodiode/ultraviolet (UV) current sensing
  - Buffer
  - Full wave rectifier
  - Constant current LED driver
  - Window comparator
- One prototyping area
- Compatible with STM32 Nucleo boards
- Comprehensive free development firmware library (X-CUBE-ANALOG1)
- Powered through the Arduino UNO connectors
- RoHS compliant

### Description

The X-NUCLEO-IKA01A1 is a multifunctional expansion board based on STMicroelectronics operational amplifiers. It provides an affordable and easy-to-use solution for various use cases with your STM32 Nucleo board. The X-NUCLEO-IKA01A1 is compatible with the Arduino™ UNO R3 connector, and supports the addition of other boards that can be stacked for enhanced applications with an STM32 Nucleo board. It can be used as an analog front-end by conditioning signals as actuator to drive LEDs or coils, or in a comparator architecture.

Thanks to its current-sensing configuration, it allows current measurement of any device that has a Micro-USB port. A highly accurate TSZ124 Micropower operational amplifier is used for this configuration as well as for that of the instrumentation amplifier. The expansion board also contains a TSU104 Nanopower op-amp and a TSV734 Micropower op-amp for mobile applications.



# 1 Schematic diagrams

Figure 1: X-NUCLEO-IKA01A1 circuit schematic (1 of 2)

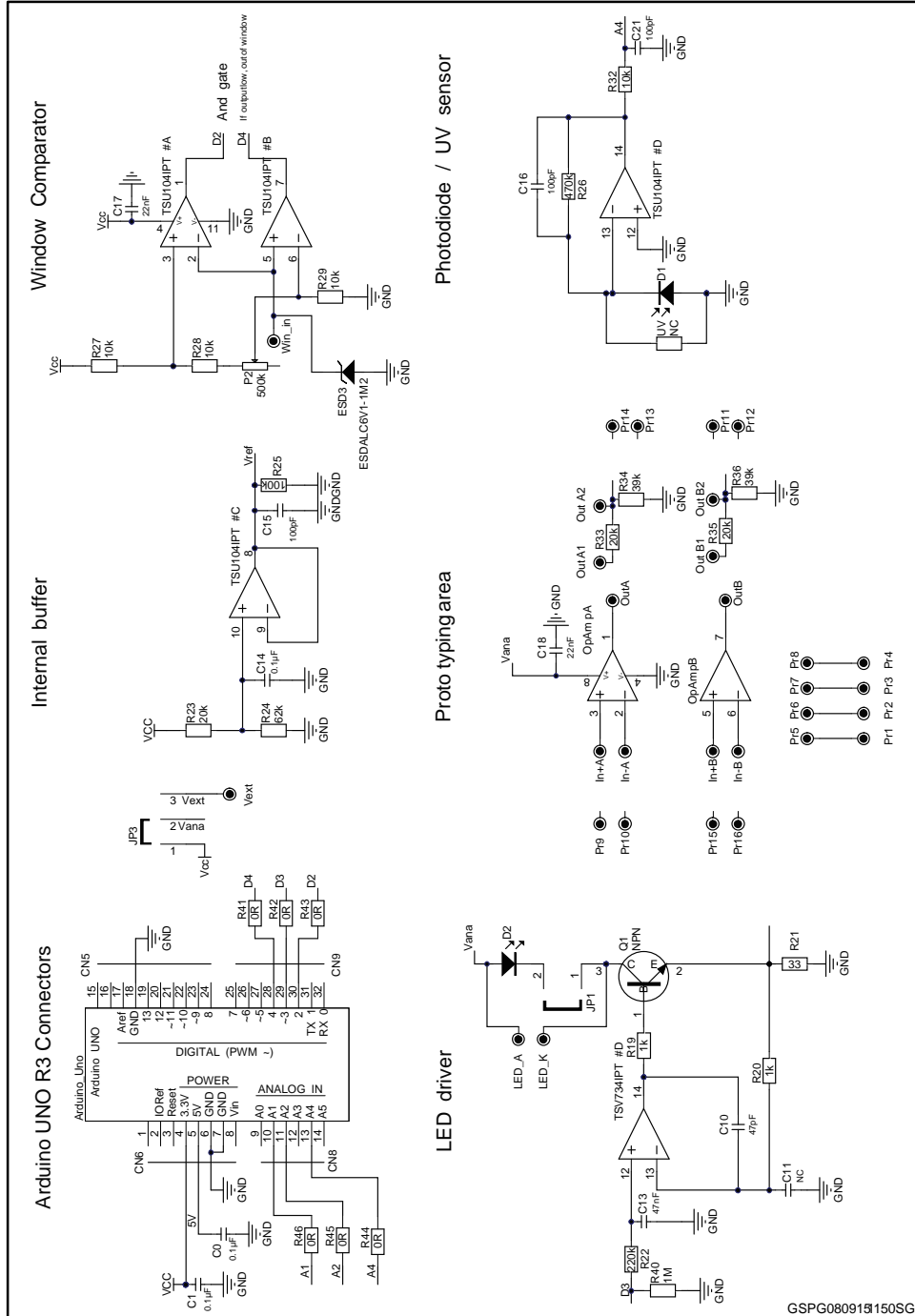
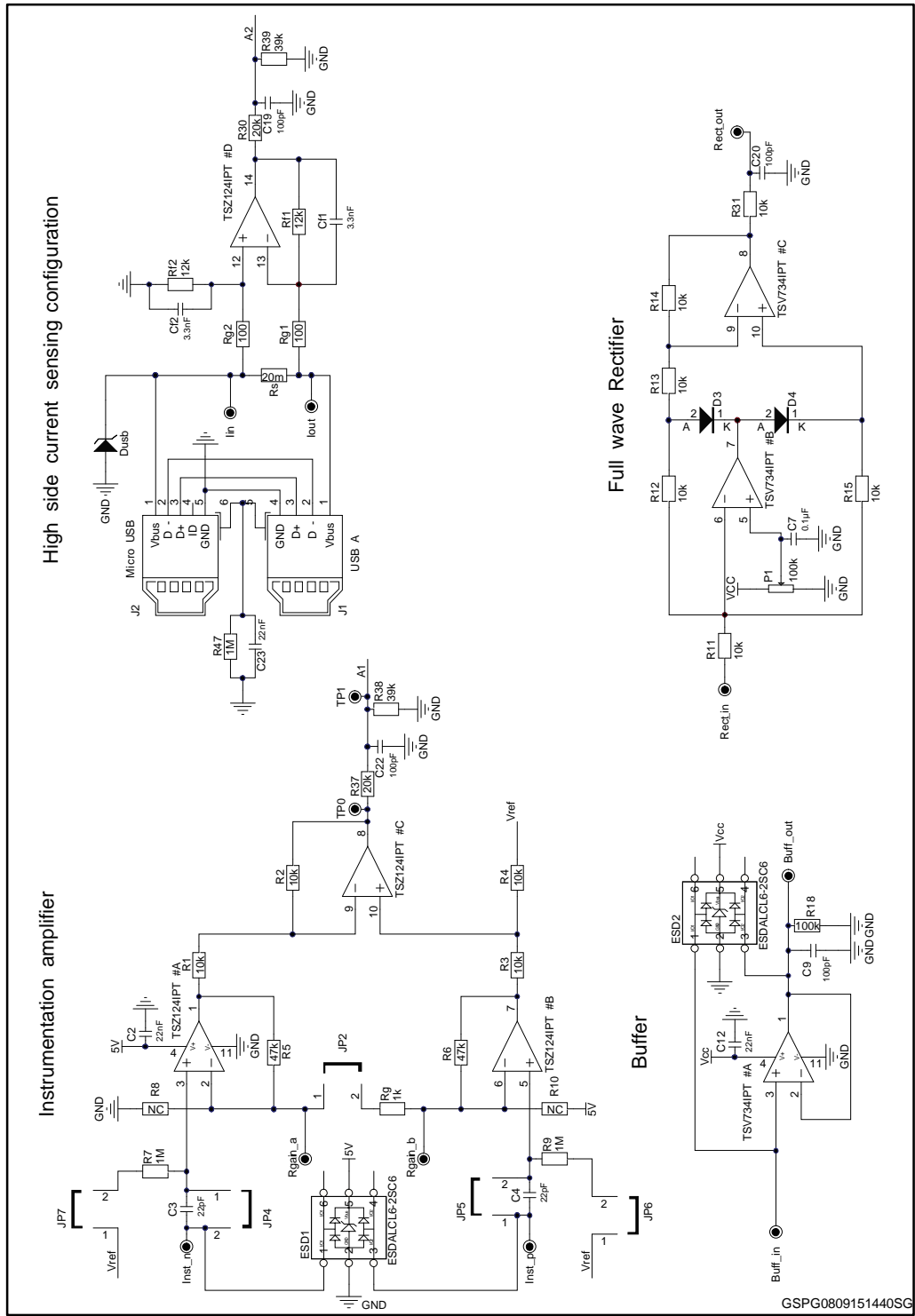


Figure 2: X-NUCLEO-IKA01A1 circuit schematic (2 of 2)



## 2 Revision history

Table 1: Document revision history

Date	Version	Changes
01-Oct-2015	1	Initial release.

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