

PNEV7462B - Operational Description

PN7462AU Customer Demo Board, PNEV7462B, is first evaluation board which represents one single integrated circuit controller solution for state-of-the-art RF interface (ISO/IEC 14443, ISO/IEC 15693, ISO/IEC 18000-3m3, Full NFC support) and contact interface (ISO/IEC 7816).

It includes Cortex-M0 core microcontroller and it can be loaded with fully-custom applications. Optimized RF antenna operation and low-power modes enable best-in-class performance. The onboard two USB connectors permits direct connection and communication with personal computer. LPC-Link2 debug adapter is added on the board. Also LPCExpresso connector to add a LPCExpresso board is present too. For smart card evaluation purposes are added two different connectors.

The heart of this Customer Demo Board is PN7462AU integrated circuit which includes at the same silicon:

- 20 MHz Cortex-M0 core microcontroller with 160 kB Flash memory for application code
- State-of-the-art RF interface (ISO/IEC 14443, ISO/IEC 15693, ISO/IEC 18000-3m3, Full NFC support)
- contact interface (ISO/IEC 7816)
- different communication ports / controllers.
- EMVCo and NFC forum compliances

NFC part of PN7462AU ic is a highly integrated high power output NFC frontend for contactless communication at 13.56 MHz. This frontend part of IC utilizes an outstanding modulation and demodulation concept completely integrated for different kinds of contactless communication methods and protocols at 13.56 MHz. Matching capacitors are needed for proper connection between pcb antenna and NFC part of IC PN7462AU power output. Optimized RF antenna operation and low-power modes enable best-in-class performance.

Microcontroller part of PN7462AU ic consists from Cortex-M0 microcontroller with 160 kB flash memory, 12 kB RAM and 4 kB EEPROM memory. Different communication interfaces (serial and GPIO ports) permits USB communication to personal computer, I2C and SPI ports to LPCXpresso board, JTAG connection to LPC-LINK2 board, SPI and I2C serial communication with external boards (option). JTAG connector is needed to connect computer to write application into PN7462AU Cortex-M0 microcontrollers flash memory and EEPROM. As an option also is provided connection to external LCD modul.

ISO/IEC 7816 interface part of PN7462AU ic is connected via TDA8026 (multiple smart card slot interface ic) to three SIM /SAM card connectors.

Some status LEDs are added for indicating Customer demo Board PNEV7462B states (reading or writing cards, mode status, erros etc.). Some test points are added to check states on pins.

The onboard two USB connectors permits direct connection and communication with personal computer. LPC-Link2 debug adapter is added on the board. Also LPCExpresso connector to add a LPCExpresso board is present too. LPC-Link2 debug adapter is added on the board. Also LPCExpresso connector to add a LPCExpresso board is present too. For smart card evaluation purposes are added two different connectors.

Power supply for PNEV7462B board is via one of two usb ports or via external power supply (7.0 ... 13.5 V DC / 1000 mA).

Disclaimer:

This module is intended only for development and evaluation purposes, and cannot be used in a finished product without further certification on the assembly.

