

5.2 Development Dongle(PCA10000)

The nRF51822 Development Dongle (PCA10000) can be used as a development platform for nRF51822. It features an on-board programming and debugging solution from SEGGER. In addition to radio communication, the nRF51822 device can communicate with a computer through a virtual COM port provided by the SEGGER chip. The PCA10000 can be loaded with Master Emulator firmware, that when combined with the Master Control Panel, gives you a peer device for nRF51822 that you can use to test the wireless connection.

Note: PCA10000 can be reprogrammed if overwritten.

5.2.1 Key features

The PCA10000 has the following key features:

- nRF51822 IC
- *Bluetooth* low energy compatible
- 2.4 GHz compatible with nRF24L devices
- USB to UART bridge
- SEGGER J-Link OB programming and debugging capabilities

5.2.2 Hardware pictures

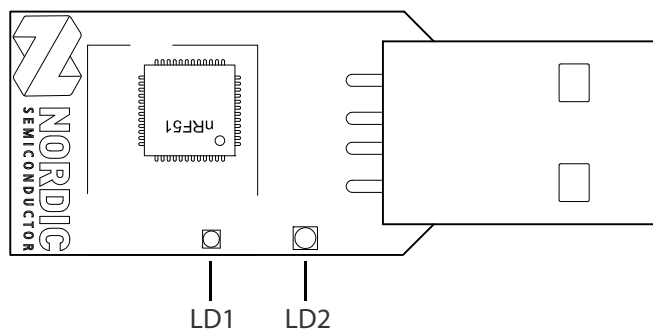


Figure 16 PCA10000 top side

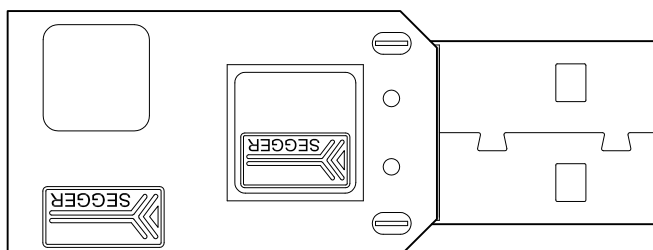


Figure 17 PCA10000 bottom side

5.2.3 Block diagram

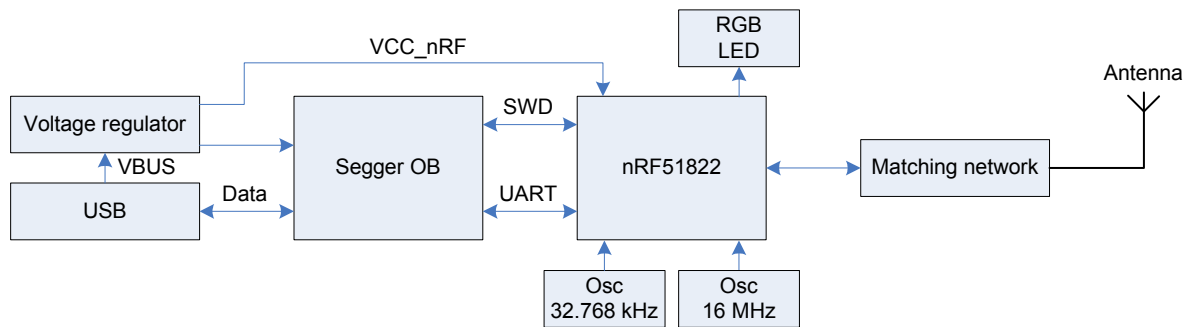


Figure 18 PCA10000 block diagram

5.2.4 Multicolor LED

The Development Dongle (PCA10000) is equipped with a multicolor RGB LED. The LED is connected to dedicated I/Os on the nRF51822 chip. The connections are shown in **Table 3**.

Color	GPIO
Red	P0.21
Green	P0.22
Blue	P0.23

Table 3 LED connection

The LEDs are active low, meaning that writing a logical zero '0' to the output pin will illuminate the LED.

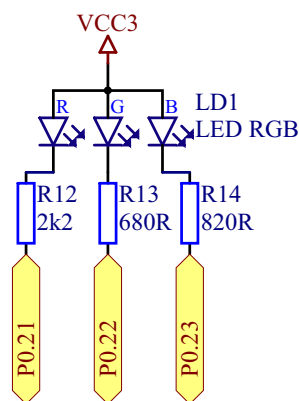


Figure 19 LED configuration

5.2.5 UART configuration

The Development Dongle v1.0 UART lines are connected to pins P0.00 to P0.03 as shown in *Table 4*.

nRF51822		SEGGER IC
GPIO	UART	UART
P0.00	RTS	CTS
P0.01	TXD	RXD
P0.02	CTS	RTS
P0.03	RXD	TXD

Table 4 Development Dongle v1.0 UART configuration

The Development Dongle v2.0 UART lines are connected to pins P0.08 to P0.11 as shown in *Table 5*.

nRF51822		SEGGER IC
GPIO	UART	UART
P0.08	RTS	CTS
P0.09	TXD	RXD
P0.10	CTS	RTS
P0.11	RXD	TXD

Table 5 Development Dongle v2.0 UART configuration

Note: The UART signals are routed directly to the SEGGER chip. The pins should only be used for UART. In order to use the USB to UART bridge, the software on the nRF51822 has to enable flow control. For details on how to set up the UART with flow control see the *nRF51 Series Reference Manual*.