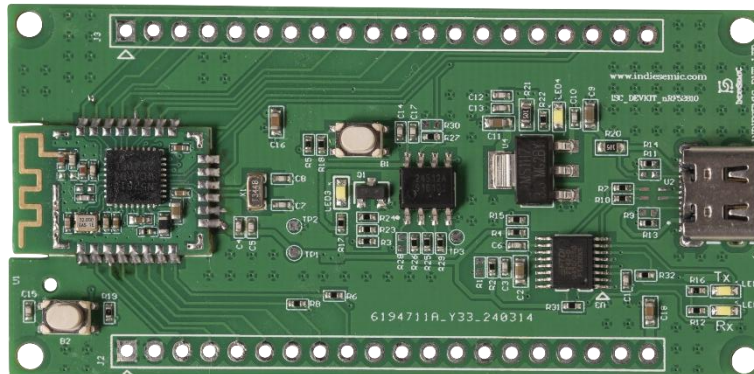




## ISC\_DEVKIT\_nRF52810



### Description

The IndieSemiC PRO BLE Series epitomizes excellence in Bluetooth Low Energy (BLE) technology, engineered to exceed the demands of IoT developers. These modules embody a fusion of cutting-edge features and unwavering performance, serving as the backbone for a myriad of applications spanning smart wearables, home automation, and industrial IoT. Compact yet potent, they seamlessly integrate into diverse projects, bolstered by a robust SDK that expedites development processes. Whether embarking on rapid prototyping endeavors or orchestrating large-scale deployments, the IndieSemiC PRO BLE Series stands tall as the epitome of innovation, empowering developers to realize their IoT ambitions with unparalleled efficiency and dependability.

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## Features

- **ISC\_DEVKIT\_nRF52810**
  - **Processor**
    - 64 MHz Arm® Cortex-M4 with FPU
    - 192Kb Flash/24 Kb RAM
  - **Bluetooth® 5 multiprotocol radio**
    - Bluetooth® 5 multiprotocol radio
    - Supports 1 Mbps Bluetooth LE and 2 Mbps Bluetooth LE
    - Operates on the 2.4 GHz ISM band
    - Advertising Extensions support
    - Long Range capability
    - Transmit (TX) power of up to +4 dBm
    - Sensitivity of -95 dBm
    - Low power consumption: approximately 4.6 mA in RX (Receive) mode at 1 Mbps
    - Integrated balun with 50  $\Omega$  single-ended output
    - Supports IEEE 802.15.4 radio protocol
    - Compatible with Thread and Zigbee protocols
  - **Peripherals**
    - SPI/TWI/PDM/QDEC/PWM/RTC
    - SPI with Easy DMA
    - EasyDMA for all digital interfaces
    - 12-bit 200 ksps ADC
    - 3x32-bit timer with counter mode
    - PPI (programmable peripheral interconnect)
    - UART(CTS/RTS) with Easy DMA



- **EEPROM (CAT24C512)**
  - Supports Standard, Fast and Fast-Plus I2C Protocol
  - 1.8 V to 5.5 V Supply Voltage Range
  - 128-byte page write buffer
  - Supports the Standard (100 kHz), Fast (400 kHz) and Fast-Plus (1 MHz) I2C protocol
  
- **LED INDICATION**
  - Uart TX/RX indication
  - Power ON indication
  
- **BUTTONs**
  - One for Reset
  - Other for any usecase



## 1. About Board

- As, ISC\_DEVKIT\_nRF52810 does not have a battery charger but can be powered through USB.

**NOTE:** ISC-nRF52810-A only supports 3.3V and hence ISC\_DEVKIT\_nRF52810 is equipped with 5V to 3.3V converter.

### 1.1 Ratings

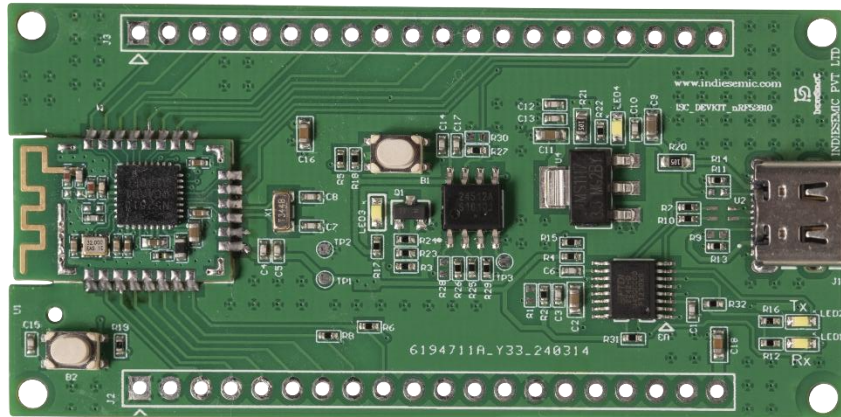
#### 1.1.1 Recommended Operating Conditions

Symbol	Description	Min.	Max.
	Conservative thermal limits for the whole board:	-40 °C ( 40 °F)	85°C ( 185 °F)

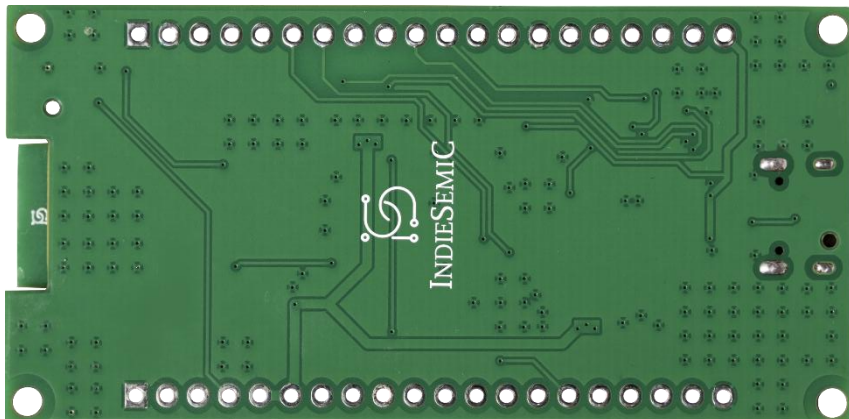


## 2. Board Topology

Top:



Bottom:





## 3. Board Operation

### 3.1 Getting Started

Here is a link to get started with nordic nRF Connect SDK with some example codes <https://academy.nordicsemi.com/courses/nrf-connect-sdk-fundamentals/>

Here is a link to get started with Bluetooth stack of nordic using nRF Connect SDK <https://academy.nordicsemi.com/courses/bluetooth-low-energy-fundamentals/>

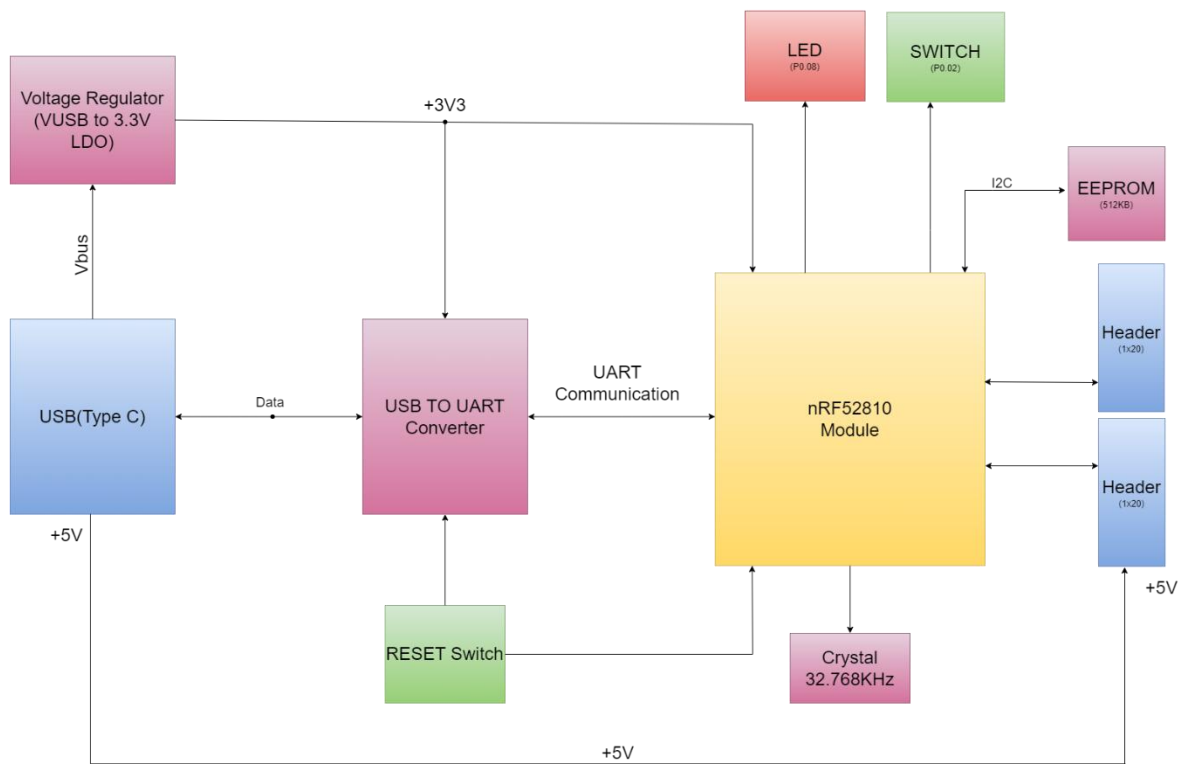
To Program ISC\_DEVKIT\_nRF52810 pls follow below guideline [https://infocenter.nordicsemi.com/topic/ug\\_nrf52832\\_dk/UG/dk/ext\\_programming\\_support\\_P20.html?cp=5\\_2\\_4\\_4\\_7\\_1](https://infocenter.nordicsemi.com/topic/ug_nrf52832_dk/UG/dk/ext_programming_support_P20.html?cp=5_2_4_4_7_1)



## 4. Block diagram

### ISC\_DEVKIT\_nRF52810

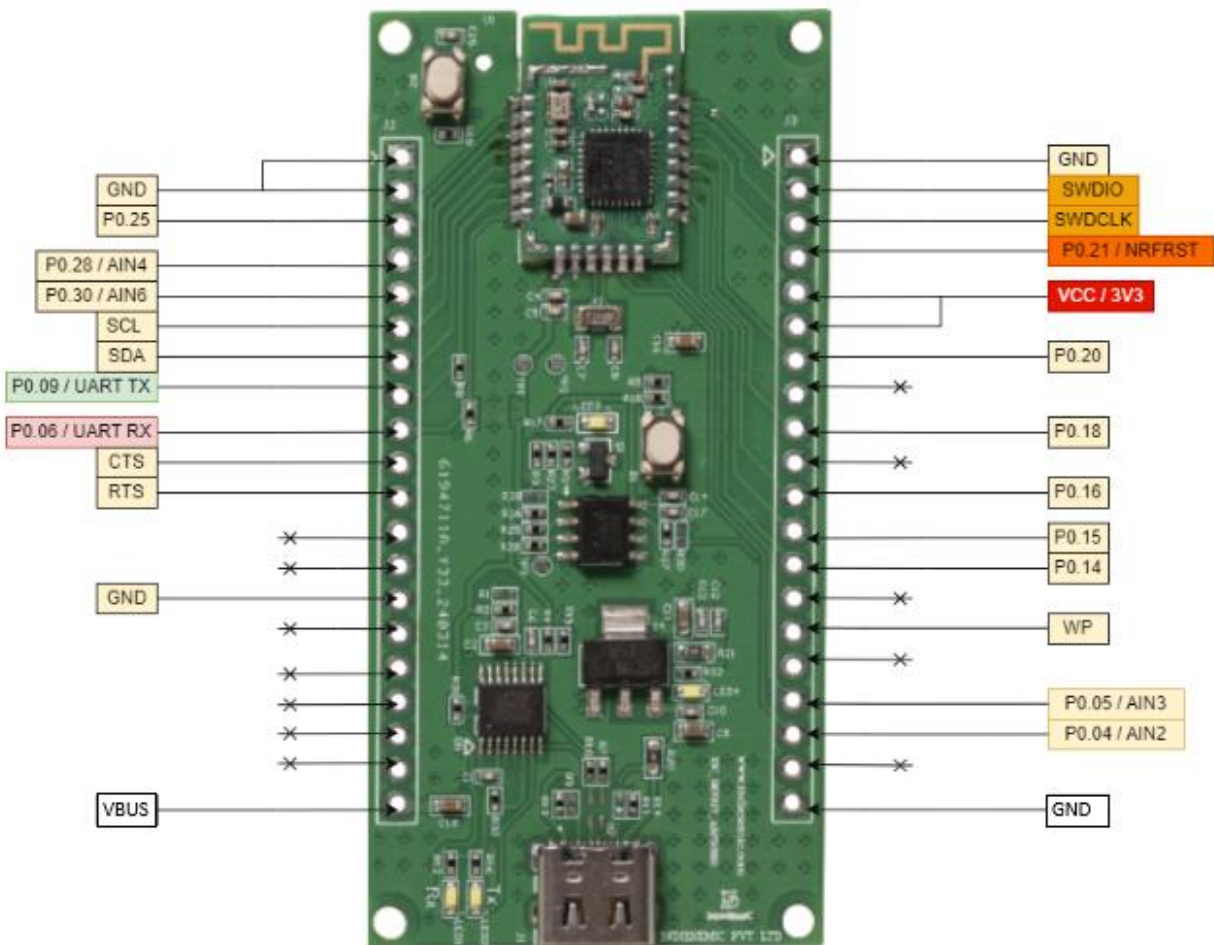
Color Code	
Module	Yellow
Connector	Blue
Integrated Circuit	Pink
LEDs	Red
SWITCH	Green







## 5. Connector Pinout





## 5.1 Pin Description

Header	Sr. No.	Pin Name	I/O type	PIN DESCRIPTION
J2	1	GND	GND	Ground
	2	GND	GND	Ground
	3	P0.25	P0.25	General purpose I/O pin.
	3	P0.28 / AIN4	P0.28	General purpose I/O pin.
			AIN4	Analog input
	4	P0.30 / AIN6	P0.30	General purpose I/O pin
			AIN6	Analog input
	5	P0.12 / SCL	P0.12	General purpose I/O pin
			SCL	Serial clock
	6	P0.10 / SDA	P0.10	General purpose I/O pin
			SDA	Serial data
	7	P0.09 / UART TX	P0.09	General purpose I/O pin
			UART TX	Uart transmit
8	P0.06/ UART RX	P0.06	General purpose I/O pin	
		UART RX	Uart receive	
14	GND	GND	Ground	
20	VUSB	Power	Power	
J3	1	GND	GND	Ground
	2	SWDIO	SWDIO	Programming Data
	3	SWDCLK	SWDCLK	Programming Clock



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4	P0.21 / NRFRST	P0.21	General purpose I/O pin
		NRFRST	Reset
5	VDD	VDD	Power
6	VDD	VDD	Power
7	P0.20	P0.18	General purpose I/O pin
9	P0.18	P0.18	General purpose I/O pin
11	P0.16	P0.16	General purpose I/O pin
12	P0.15	P0.15	General purpose I/O pin
13	P0.14	P0.14	General purpose I/O pin
15	WP	INPUT	EEPROM WRITE PROTECT
17	P0.05/ AIN3	P0.05	General purpose I/O pin
		AIN3	Analogue input
18	P0.04/ AIN2	P0.04	General purpose I/O pin
		AIN2	Analogue input
20	GND	GND	Ground