User Manual

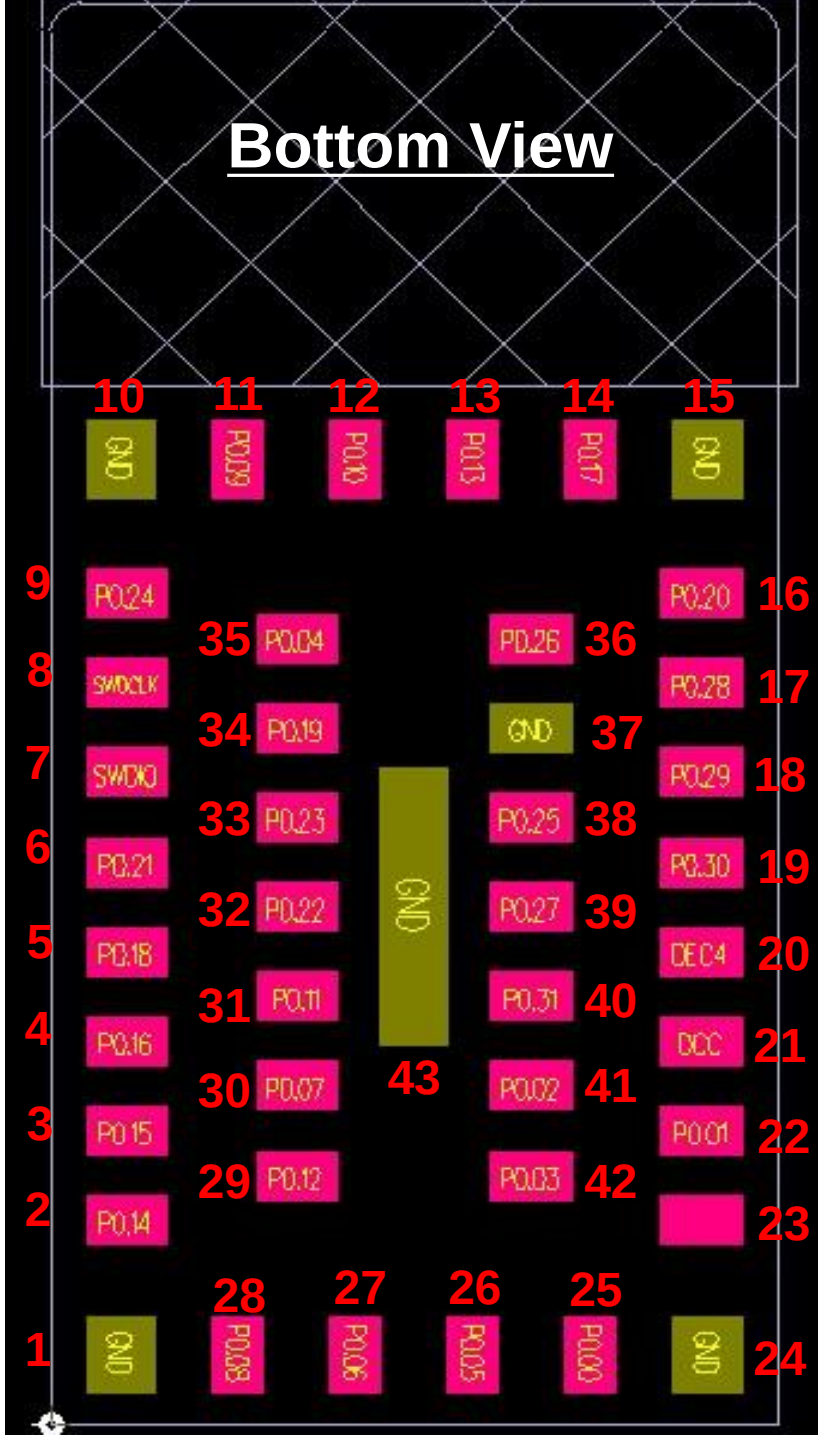
Outline

1. Specification
2. Pin Definition
3. Software Installation
4. NCC Warning Statement
5. FCC Warning Statement

Bluetooth Module Specification

- Brand: COMPAL
- Model Name: CEX01BT
- Product Name：Bluetooth module
- Supply Voltage: 1.7V~3.6V
- Processor: 32-bit ARM Cortex-M4F
- Memory: 512Kb Flash /64Kb RAM
- Mode: Single Mode BLE v4.2
- GPIOs: Up to 32 GPIOs
- Antenna Designation: Chip Antenna
- Dimension: 6.25mm*12.75mm*1.60mm
- Temperature Range: -20°C~+75°C(Operating)

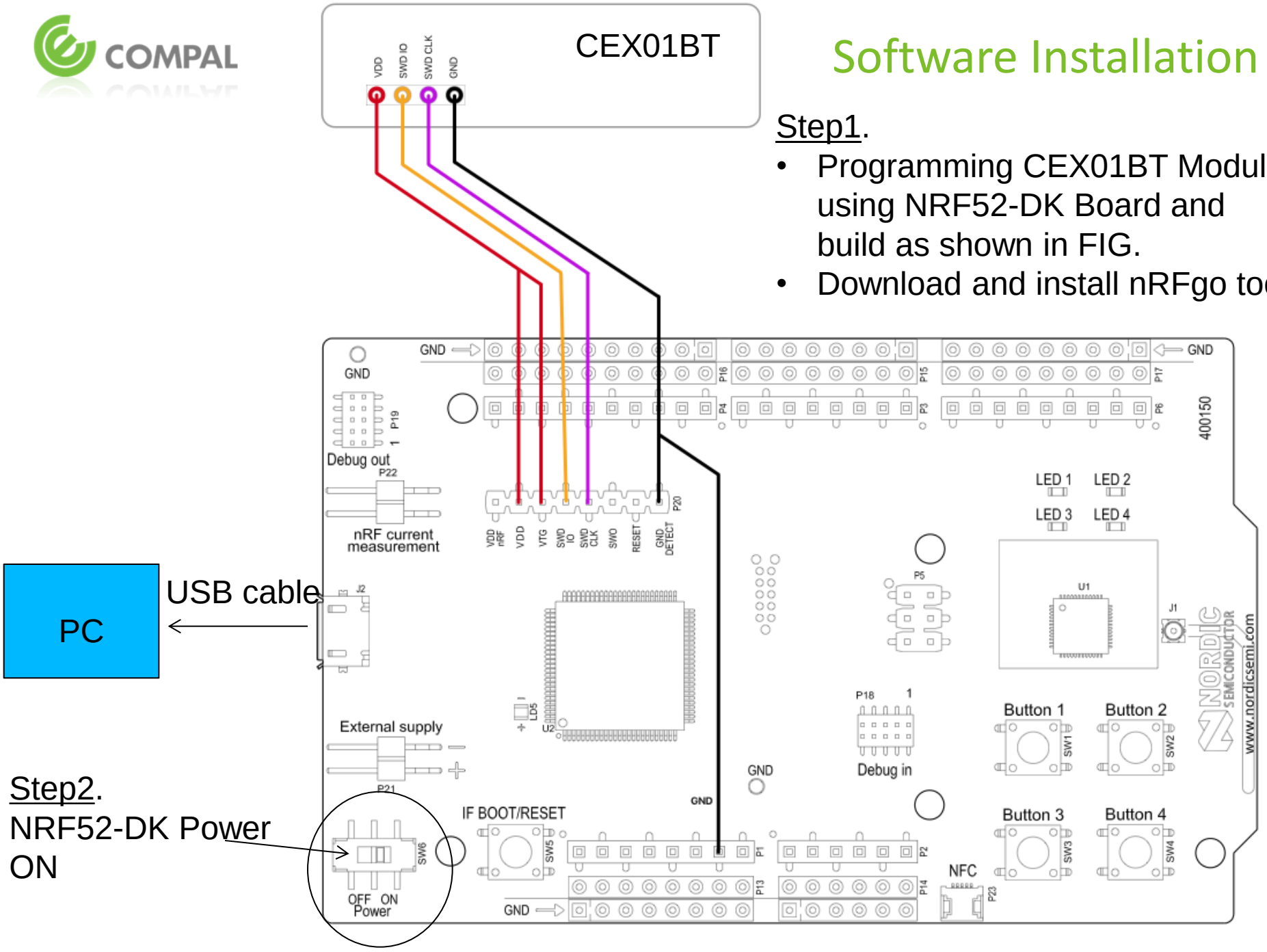
Pin Definition



Pin No.	Name	Pin Function	Description
1,10,15, 24,37,43	GND	Ground	The pad must be connected to a solid ground plane
2	P0.14	Digital I/O	General-purpose digital I/O
3	P0.15	Digital I/O	General-purpose digital I/O
4	P0.16	Digital I/O	General-purpose digital I/O
5	P0.18	Digital I/O	General-purpose digital I/O
6	P0.21	Digital I/O	General-purpose digital I/O
7	SWDIO	Digital I/O	Serial wire debug I/O for debug and programming
8	SWDCLK	Digital input	Serial wire debug clock input for debug and programming
9	P0.24	Digital I/O	General-purpose digital I/O
11	P0.09	Digital I/O	General-purpose digital I/O
12	P0.10	Digital I/O	General-purpose digital I/O
13	P0.13	Digital I/O	General-purpose digital I/O
14	P0.17	Digital I/O	General-purpose digital I/O
16	P0.20	Digital I/O	General-purpose digital I/O
17	P0.28	Digital I/O	General-purpose digital I/O
18	P0.29	Digital I/O	General-purpose digital I/O
19	P0.30	Digital I/O	General-purpose digital I/O
20	DEC4	Power	1V3 regulator supply decoupling. Input form DC/DC converter

Pin No.	Name	Pin Function	Description
21	DCC	Power	DC/DC converter output pin
22	P0.01	Digital I/O	General-purpose digital I/O
23	VCC_NRF	Power	Power-supply pin
25	P0.00	Digital I/O	General-purpose digital I/O
26	P0.05	Digital I/O	General-purpose digital I/O
27	P0.06	Digital I/O	General-purpose digital I/O
28	P0.08	Digital I/O	General-purpose digital I/O
29	P0.12	Digital I/O	General-purpose digital I/O
30	P0.07	Digital I/O	General-purpose digital I/O
31	P0.11	Digital I/O	General-purpose digital I/O
32	P0.22	Digital I/O	General-purpose digital I/O
33	P0.23	Digital I/O	General-purpose digital I/O
34	P0.19	Digital I/O	General-purpose digital I/O
35	P0.04	Digital I/O	General-purpose digital I/O
36	P0.26	Digital I/O	General-purpose digital I/O
38	P0.25	Digital I/O	General-purpose digital I/O
39	P0.27	Digital I/O	General-purpose digital I/O
40	P0.31	Digital I/O	General-purpose digital I/O
41	P0.02	Digital I/O	General-purpose digital I/O
42	P0.02	Digital I/O	General-purpose digital I/O

Software Installation

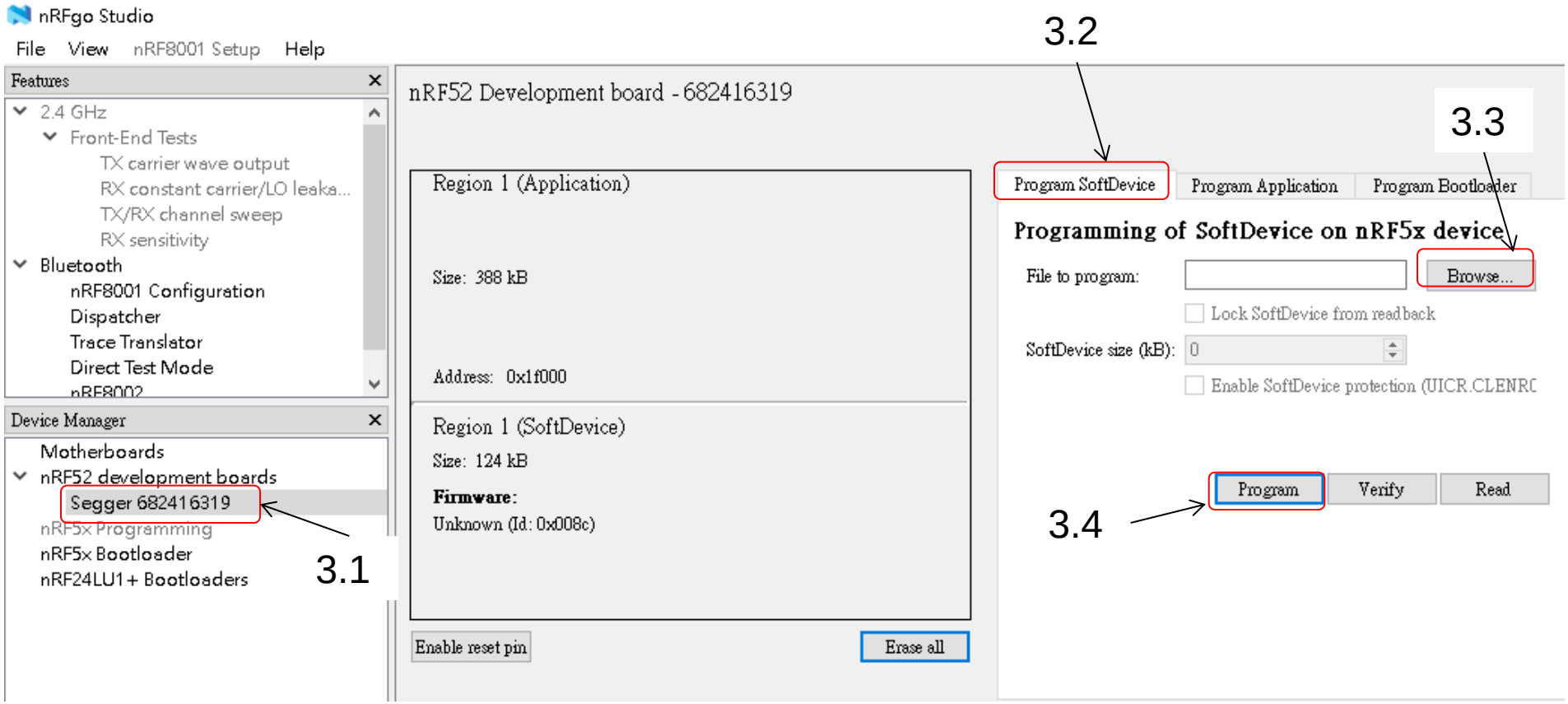


Step1.

- Programming CEX01BT Module using NRF52-DK Board and build as shown in FIG.
- Download and install nRFgo tool

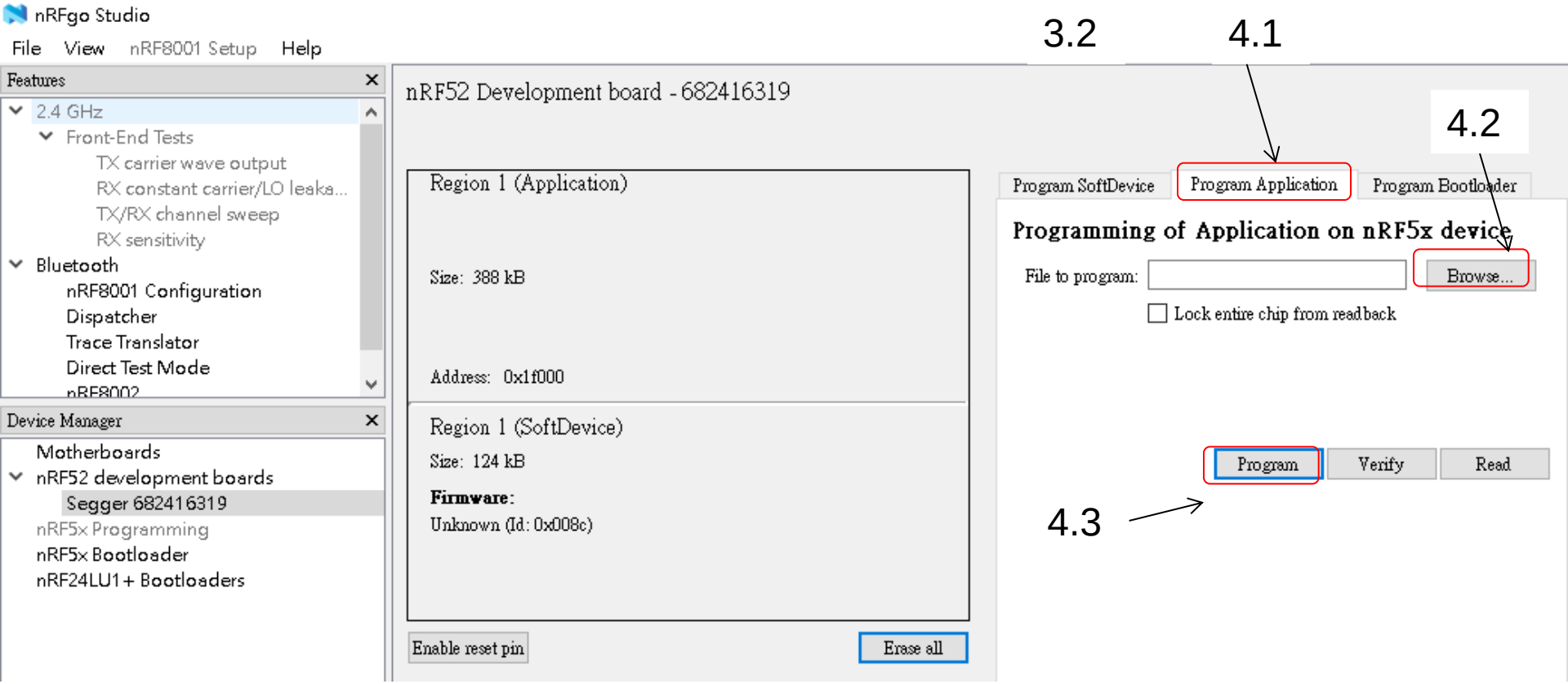
Step3.

Run the nRFgo tool and program SoftDevice.



Software Installation

Step4.
Program Application



Step5.
CEX01BT programmed to finish and NRF52-DK Power turn OFF.

NCC Warning Statement

低功率電波輻射性電機管理辦法：

- 第十二條經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
- 第十四條低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時, 應改善至無干擾時方得繼續使用。前項合法通信,指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。
- Article 12

Without permission, any company, firm or user shall not alter the frequency, increase the power, or change the characteristics and functions of the original design of the certified lower power frequency electric machinery.

- Article 14

The application of low power frequency electric machineries shall not affect the navigation safety nor interfere a legal communication, if an interference is found, the service will be suspended until improvement is made and the interference no longer exists.

FCC Warning Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation

FCC Warning Statement

This module is intended for OEM integrator. The OEM integrator is still responsible for the FCC compliance requirement of the end product, which integrates this module.20cm minimum distance has to be able to be maintained between the antenna and the users for the host this module is integrated into. Under such configuration, the FCC radiation exposure limits set forth for an population/uncontrolled environment can be satisfied.

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user manual of the end product. The user manual which is provided by OEM integrators for end users must include the following information in a prominent location.

1. To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures.
2. Only those antennas with same type and lesser gain filed under this FCC ID number can be used with this device.
3. The regulatory label on the final system must include the statement: “Contains FCC ID: GKR-CEX01BT or using electronic labeling method as documented in KDB 784748.
4. The final system integrator must ensure there is no instruction provided in the user manual or customer documentation indicating how to install or remove the transmitter module except such device has implemented two-ways authentication between module and the host system.