

# Product Document

# TMF8821 Software Development Kit Overview

TMF8821\_Driver\_SDK\_Source\_vx.xx.zip

# TMF8821 / LPC55S69 Software Development Kit (SDK)

## Target Hardware

- The TMF8821 Software Development Kit has been developed as a quick and easy platform to begin evaluation and development of the TMF8821 direct Time of Flight sensor within a microcontroller environment.
- The target hardware platform is the NXP LPC55S69-EVK featuring the LPC55S69, Arm® Cortex®-M33 microcontroller. The TMF8821-SHIELD includes headers compatible with Arduino® UNO. When used in conjunction with the LPC55S69-EVK & SDK provides a quick and easy TMF8821 development platform.
- The TMF8821-SHIELD can be used with many other MCU development kits due to the widely used header format.

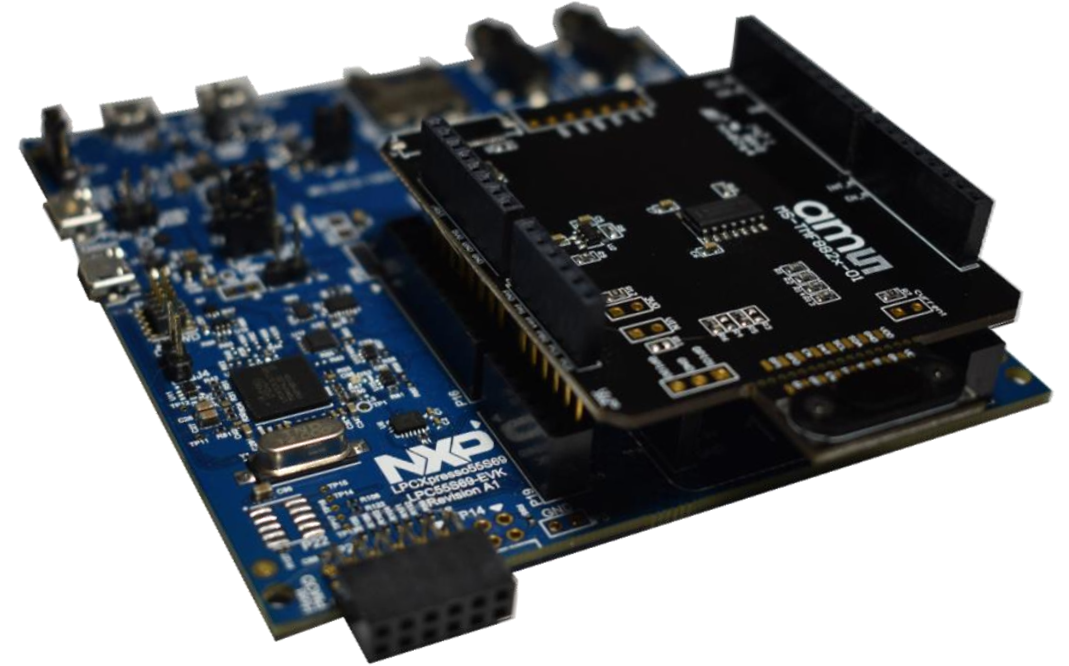
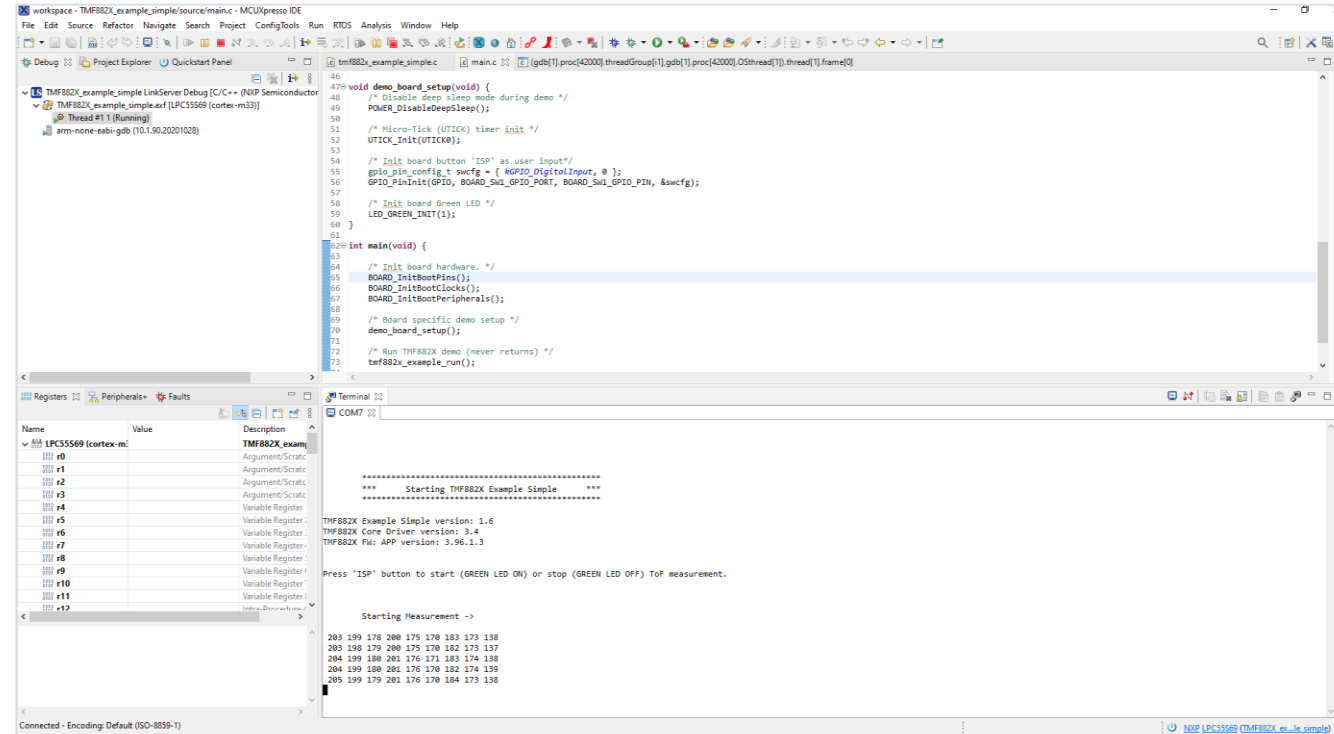


Figure 1: NXP LPC55S69-EVK with TMF8821-SHIELD installed

# TMF8821 / LPC55S69 Software Development Kit (SDK)

## Software overview

- The SDK can be downloaded from the [ams website](#).
- Once installed with the MCUXpresso Integrated Development Environment (IDE), included source code examples can be compiled, downloaded and run on the LPC55S69 MCU connected to a TMF8821 device.
- Step by step download and installation instructions are included within the TMF8821\_Driver\_SDK\_Source\_vx.xx.zip file.
- Included source code examples:
  - Simple 3x3, 9 zone configuration distance measurement
  - Factory calibration data generation and usage
  - 3x3, 9 zone configuration histogram readout
  - Custom SPAD map upload



The screenshot displays the MCUXpresso IDE interface. The main window shows the source code for the TMF8821 example, which includes functions for board setup, timer initialization, and a main loop that runs the demo. The terminal window at the bottom shows the output of the program, including the version information and the start of the measurement process.

```
46 void demo_board_setup(void) {
47     /* Disable deep sleep mode during demo */
48     POWER_DisableDeepSleep();
49
50     /* Micro-Tick (UTICK) timer init */
51     UTICK_Init(UTICK0);
52
53     /* Init board button 'ISP' as user input */
54     gpio_pin_config_t swcfg = { GPIO_DigitalInput, 0 };
55     gpio_pinInit(GPIO, BOARD_GPI_GPIO_PORT, BOARD_GPI_GPIO_PIN, &swcfg);
56
57     /* Init board Green LED */
58     LED_GREEN_Init(1);
59 }
60
61 int main(void) {
62     /* Init board hardware. */
63     BOARD_InitBootPins();
64     BOARD_InitBootClocks();
65     BOARD_InitBootPeripherals();
66
67     /* Board specific demo setup */
68     demo_board_setup();
69
70     /* Run TMF882X demo (never returns) */
71     tmf882x_example_run();
72 }
73
```

```
*****
*** Starting TMF882X Example Simple ***
*****
TMF882X Example Simple version: 1.6
TMF882X Core Driver version: 3.4
TMF882X FW: APP version: 3.96.1.3
Press 'ISP' button to start (GREEN LED ON) or stop (GREEN LED OFF) ToF measurement.
Starting Measurement ->
203 199 178 200 175 170 183 173 138
203 198 179 200 175 170 182 173 137
204 199 180 201 176 171 183 174 138
204 199 180 201 176 170 182 174 139
205 199 179 201 176 170 184 173 138
```

Figure 2: NXP LPC55S69 MCUXpresso IDE