|  |
| --- |
| **Model Report**  Software Design Document  Version 1.0 ● Proposed |
| |  | | --- | |  | | Date/Time Generated: | 22-06-2025 15:54:06 | | Author: | xpress\_embedo |   EA Repository : D:\Projects\Embedded\OfficialBoards\NXP\T1\_App\docs\T1\_DesignDocument.eap |
| |  |  | | --- | --- | | **CREATED WITH** |  | |

**Table of Contents**

**History 3**

Update History 3

**Introduction 3**

Introduction diagram 3

Software Modules 4

**Software Modules 4**

Buzzer Manager 4

Debug Manager 5

Display Manager 6

LED Driver 7

Main State Machine 8

Segger RTT 9

# **History**

*Package in package 'Model'*

History

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025

## **Update History**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Version** | **Author** | **Description** |
| 1 | 1.0 | Embedded Laboratory | First Version for learning how to generate documentation properly. |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# **Introduction**

*Package in package 'Model'*

The following project is developed to learn the MKE17Z micro-controller and it's peripherals practically on professional boards with real-life challenges. Here we will learn how to make custom display containing seven segments and different LEDs working together, we will learn how to use buzzer, IR LEDs, and Touch Sensing Interface of this micro-controller.

The most important thing for this project is the integration of the NXP provided safety library in order to make this project safety relevant, which will act as a base project for all future projects.

Introduction

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025

## **Introduction diagram**

*Package diagram in package 'Introduction'*

Introduction

Version 1.0

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025



Introduction

## **Software Modules**

*Package in package 'Model'*

The following project is developed to learn the MKE17Z micro-controller and it's peripherals practically on professional boards with real-life challenges. Here we will learn how to make custom display containing seven segments and different LEDs working together, we will learn how to use buzzer, IR LEDs, and Touch Sensing Interface of this micro-controller.

The most important thing for this project is the integration of the NXP provided safety library in order to make this project safety relevant, which will act as a base project for all future projects.

Software Modules

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025

# **Software Modules**

*Package in package 'Model'*

The following project is developed to learn the MKE17Z micro-controller and it's peripherals practically on professional boards with real-life challenges. Here we will learn how to make custom display containing seven segments and different LEDs working together, we will learn how to use buzzer, IR LEDs, and Touch Sensing Interface of this micro-controller.

The most important thing for this project is the integration of the NXP provided safety library in order to make this project safety relevant, which will act as a base project for all future projects.

Software Modules

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025

## **Buzzer Manager**

*Package in package 'Software Modules'*

Buzzer Manager

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025

## **Debug Manager**

*Package in package 'Software Modules'*

Debug Manager

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025

## **Display Manager**

*Package in package 'Software Modules'*

Display Manager

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025

## **LED Driver**

*Package in package 'Software Modules'*

LED Driver

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025

## **Main State Machine**

*Package in package 'Software Modules'*

Main State Machine

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025

## **Segger RTT**

*Package in package 'Software Modules'*

Segger RTT

Version 1.0 Phase 1.0 Proposed

xpress\_embedo created on 22-06-2025. Last modified 22-06-2025