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| **E-paper Display Unit Design Definition** |
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| KL  11-21-2015 |

Document history

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| --- | --- | --- | --- |
| **Date** | **Revision** | **By whom** | **Note** |
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# Introduction

This project is to create a simple E-paper display system which consists of an e-paper display unit embedded in a mobile phone cover case that can be attached to an Android mobile device via Bluetooth for leisure reading. Figure XXX shows the simplified system block of the E-paper display system.

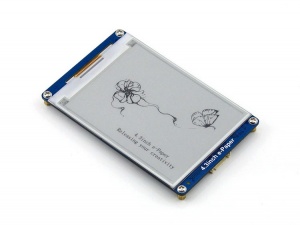
Figure XXX

# Hardware Design Definition

## E-paper display development board

Information available at: <http://www.waveshare.com/4.3inch-e-paper.htm>

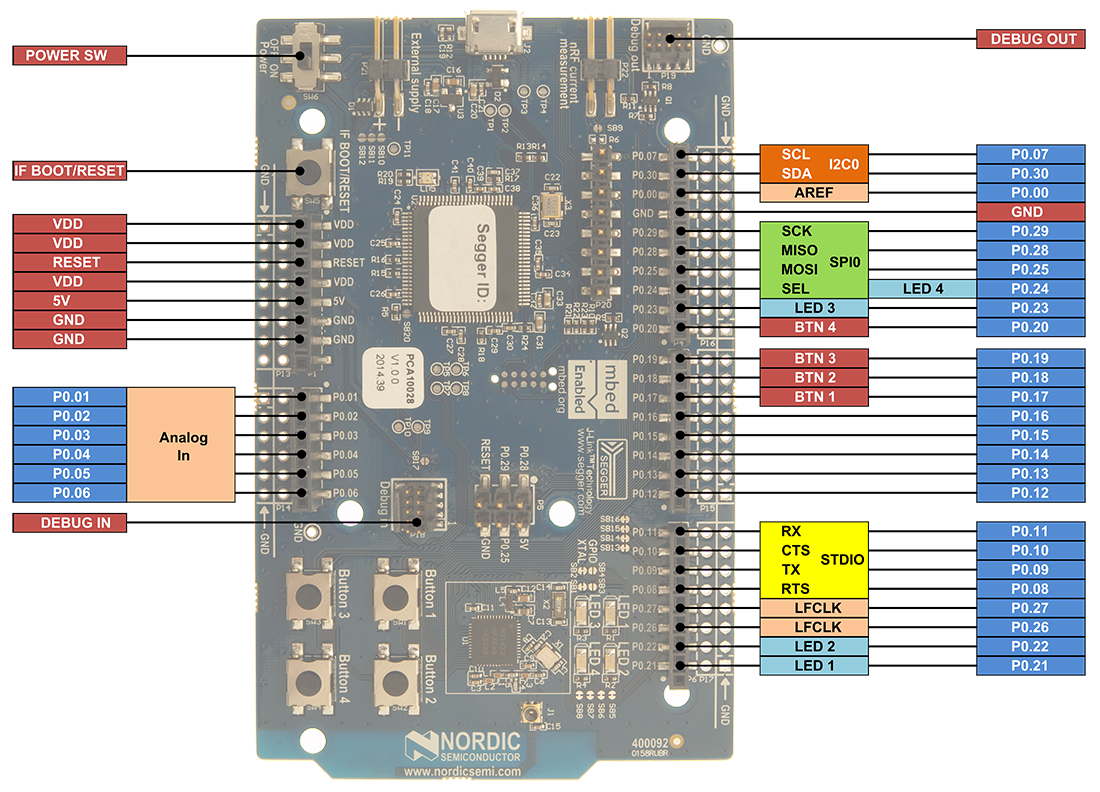
Support information available at: <http://www.waveshare.com/wiki/4.3inch_e-Paper>



## Bluetooth development board

<https://developer.mbed.org/platforms/Nordic-nRF51-DK/>

<https://www.nordicsemi.com/eng/Products/nRF51-DK>



## Android plat form

Recommended android platform must have Bluetooth Low Energy v4.1 capability.

# Software design definition

## Software architecture

## Software components

### Bluetooth Stack

This accommodate communications to Android phone, handles button interrupt, and UART

## E-paper display driver

This component will reside in the nRF51 and take care of displaying text on the EDU. This driver will be ported from other platform. Source code is available at: <http://www.waveshare.com/wiki/4.3inch_e-Paper#Resources>