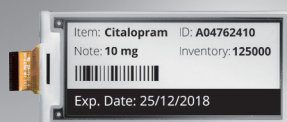# EPD-023

2.9" e-Paper Zigbee Display Module

NEW

ZigBee

Features

- ARM Cortex-M3 Core Processor
- Support IEEE 802.15.4 / 2.4 G networks
- 2.9" e-Paper panel display
- Great for Low Consumption, up to 5 years life time
- Rich I/O control with 3 button & 3 LED
- Support temperature 0 ~ 50 °C
- High Performance integrated system with RTOS
- Support over-the-air upgrade (OTA)
- Available Case kit for various applications
- Available wall mount kit for various applications

Introduction

EPD-023 is the module which support ultralow power 2.4GHz RF wireless protocol integrated with 2.9" EPD in ARM Cortex-M3 processor. The module can support hospital ,pharmacy, factory, warehouse and retail application With optimization on the power consumption and device management, your applications with low data rate requirement can be achieved years battery lifetime and thousand devices connection.
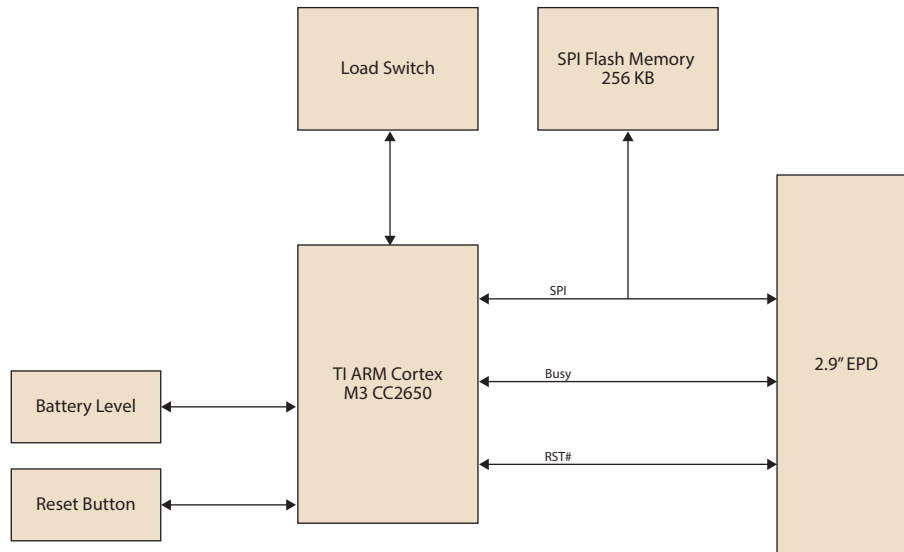
Advantech EPD-023 provide multi interface for application control which is highly integrated with EPD driver and low power consumption system. EPD-023 support Zigbee software stack protocol which can auto join and binding the network group with WISE-3241 IoT Router and Advantech IoT Gateway. Data can be quickly and easily acquired and transformed into a different format to communicate with ePaper Manager Server. System integration and End system can focus on application development and system management.

Specifications

Computing System	MCU	TI 32-bit ARM Cortex-M3 Processor
	Memory	RAM 28KB
Display	Screen Size	79 x 36.7 mm
	Rresolution	296 x 128 pixels
	Touch Type	-
Storage	Internal	Flash: 128 KB
	External	SPI Flash: 256 KB
Audio		-
Network	Standard	IEEE 802.15.4
	Frequency Band	2.4-GHz
	Channels	16
	Channel Separation	5MHz
	Topology	Star network
	Transmit Power	-21dBm~ +5dBm
	Receiver Sensitivity	-100dBm
	RF Data Rate	250 Kbps
	Function	End node
	Antenna	On-board Antenna
Interface		LED x3 Function Key x3
Power	Battery	CR2450 x4
Environment	Operational Temperature	B/W: 0 ~ 50 °C, R/B/W 0 ~ 40 °C
	Non-Operational Temp.	-25 ~ 60 °C
	Operating Humidity	5 ~ 80% Relative Humidity, non-condensing
Physical Characteristics	Dimensions (W x H)	79.0 x 36.7 mm
	Weight	TBD
Operating System		RTOS

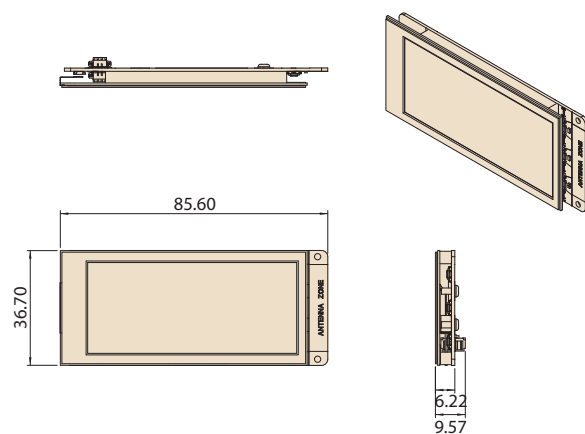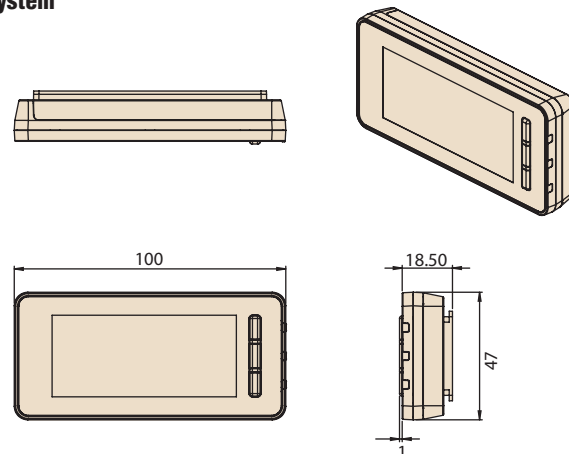* Note: The frequency support of other regions can be checked for further plan.

Board Diagram

```
┌──────────────┐      ┌──────────────┐
│  Load Switch │      │ SPI Flash    │
│              │      │ Memory       │
│              │      │ 256 KB       │
└──────┬───────┘      └──────┬───────┘
       │                     │
       │                     │
       ↕                     ↓
┌──────────────┐   SPI   ┌──────────┐
│              │◄───────►│          │
│ TI ARM Cortex│   Busy  │          │
│ M3 CC2650    │◄───────►│ 2.9" EPD │
│              │   RST#  │          │
│              │◄───────►│          │
└──────────────┘         └──────────┘
   ↕        ↕
┌─────────────┐
│ Battery Level│
└─────────────┘
┌─────────────┐
│ Reset Button │
└─────────────┘
```

Dimensions

Unit: mm

Module-Panel

85.60

36.70

ANTENNA ZONE

6.22

9.57

System

100

18.50

47

1

Ordering Information

Part No.	Description
EPD-023B1AG-NTC01	2.9" wireless ePaper display module

Optional Accessories

Part No.	Description
1760002692-01	4 pcs CR2450 battery
Wall Mount Plate	