EVE Demo Sheet

Smart Home Control Hub

Description:

This demo highlights a **cost-effective Smart Home Control Hub**, demonstrating the capabilities of Bridgetek' s **IDM2040-21R** module, which integrates the **FT800** Embedded Video Engine (EVE with a **Raspberry Pi RP2040** microcontroller. The User Interface (UI) enables control of various smart home functions, including floor heating, lighting, air conditioning, and curtains. It emphasizes the EVE GPU's ability to deliver a fluid, responsive user experience on a small, budget-friendly platform.

Technical Specification:

- **MCU:** RP2040
- **GPU:** FT800 (1st Generation Embedded video Engine)
- **Display:** 2.1-inch circular LCD, 480x480 resolution
- **User Interaction:** Capacitive touch screen, rotary encoder, and push button

Key Features:

- **Fluid User Interface (UI):** The demo showcases a responsive and smooth UI, designed to allow users to control smart home features like: Floor Heating, Lighting, Air conditioning and Automated curtains.
- **Capacitive Touch Interaction:** Users can interact with the Smart Home Control Hub by simply touching the screen, which enables easy selection of different functions.
- **Rotary Encoder:** The rotary encoder allows users to scroll through menus or adjust settings in a precise manner, complementing the touch functionality.
- **Push Button:** An additional push button provides a physical way to confirm actions or navigate the UI, offering flexibility in how users interact with the systems.
- **Cost-Effective GPU:** The **FT800 GPU** is an affordable yet powerful solution, delivering smooth graphics and animation transitions on the 480x480 LCD display. This highlights its ability to manage rich UIs on resource-constrained MCUs
- **Toolchain support:** The **EVE Screen Designer (ESD)**, a free and comprehensive IDE, simplifies the development of custom UIs for the IDM2040-21R module. Starting from ESD 4.19.4, the demo project is included as an example, and the IDM2040-21R module is supported as a built-in platform.