



Operational Description

T-DASH XL





Introduction

The T-DASH is a high brightness graphic TFT LCD full color display in aluminium housing used for displaying mainly speed and digital flags on board of a racing vehicle and is supplied with this data via a CAN bus connection. Together with a smartphone application, the T-DASH can be updated and configured via a Bluetooth Low Energy connection. 2 Buttons allow for user interfacing.

The display can show several pages with different information. The lower button steps through the available pages. The upper button controls the brightness level of the display.

The T-DASH advertises on the well known BLE advertisement channels to allow for easy discovery with smartphone devices.

BLE Radio

- Channels and frequencies: 40 channels, spaced 2 MHz, starting at 2.402 GHz
- Power Levels: 0 dBm
- Bandwidth / datarate: 1 MHz / 1 Mbps
- Embedded Ceramic PCB antenna with on average -0.5dBi gain

Technical Description

The microcontroller NRF52833 from Nordic Semiconductor is used in combination with a 32MHz clock. This controller incorporates an ARM processor and a 2.4 GHz radio.

The radio is controlled by the Nordic Semiconductor SoftDevice firmware stack. The T-DASH firmware uses the stack to communicate with a smartphone application.

Technologies Used

- CAN bus
- Bluetooth Low energy
- Full color, 240x320, TFT graphic display module with LED backlight

Environmental

Operating ambient temperature: -10 to +50 C

Operating voltage range: 11 - 14.4 V