



Luminary Micro - RDK-IDM-SBC - Intelligent Display Reference Design Kit

Product Overview:

The Luminary Micro Stellaris® 3.5-inch Landscape Single Board Computer Intelligent Display Reference Design Kit (RDK-IDM-SBC) offers a complete, open-tool graphical touch-screen user interface design solution for control, automation, and instrumentation applications. Based on the feature-rich Stellaris LM3S9B92 microcontroller featuring Ethernet, USB OTG/Host/Device, and CAN, the new intelligent display module featured in the kit (MDL-IDM-SBC) combines a complete 3.5-inch QVGA landscape-oriented touch-screen user interface with several serial, digital, and analog connectivity options for easy implementation as a Human Machine Interface (HMI) touch display panel in an embedded control device. Software development for the RDK-IDM-SBC is simplified by using Luminary Micro's comprehensive StellarisWare® Peripheral Driver Library, Graphics Library, and USB Library in conjunction with ARM development tools from ARM tools partners.



Kit Contents:

The reference design ships with everything needed to quickly evaluate and easily customize the intelligent display module for your specific application, including

- Stellaris® IDM-SBC board
- MDL-ADA2 10-pin to 20-pin adapter
- USB flash drive (128 MB)
- 24 V power supply with international plug-set
- Ethernet cable
- 8 Ohm speaker
- CD with tools, documentation and source code including: Quickstart Guide, User's Manual, Software Reference Manual, Board Data Sheet, BOM, schematics, and Gerber files

Key Features:

The RDK-IDM-SBC ships with the software-customizable MDL-IDM-L35 module. The MDL-IDM-L35 features the following:

- Bright QVGA LCD touch-screen display
 - 262 K colors, 3.5" QVGA 320 x 240 pixels
 - White LED backlight with resistive touch panel
- Serial connectivity options
 - USB 2.0 Host
 - 10/100 Ethernet MAC and PHY
 - 1 MBPS Controller Area Network (CAN)
 - I2C Interface for external peripherals and sensors
 - UART serial port with TTL signal levels
- High-performance microcontroller
 - 32-bit ARM® Cortex™-M3 core
 - 256 KB single-cycle Flash, 96 KB single-cycle SRAM, and 80 MHz operation
- Versatile board-level memories
 - 8 MB SDRAM connected by EPI
 - 1 MB serial flash connected by SPI
 - microSD card slot
 - USB Host connector for external mass-storage devices
- Power supply
 - Wide input range 12-40 Vdc power supply with auxiliary 5 V power output
- I2S mono Codec for high-quality audio with 0.8 W amplifier for external 8-Ohm speaker
- Screw terminal block for I2C, CAN, and power connections
- Compact 2.0" x 3.0" PCB footprint
- Easy to customize
 - Includes full source code, example applications, and design files
 - Develop using tools supporting the IDM-SBC from Keil, IAR, Code Sourcery, and Code Red (using a Stellaris evaluation kit or preferred ARM Cortex-M3 debugger)
 - Supported by Luminary Micro Graphics Library and StellarisWare™ Peripheral Driver Library
 - Comes with factory-programmed quick start

- game demo application
- Ethernet boot loader for firmware update

Ordering Information:

Products:

Part Number	Manufacturer	Farnell P/N	Newark P/N
RDK-IDM-SBC	Luminary Micro	1712296	06R2345

Associated Products:

Part Number	Manufacturer	Description	Farnell P/N	Newark P/N
LM3S9B92-IQC80-B1	Luminary Micro	Microcontroller	NA	24R9571
MDL-ADA2	Luminary Micro	10-pin to 20-pin JTAG Adapter Module	NA	45P3740

Similar Products:

Part Number	Manufacturer	Description	Support Device	Farnell P/N	Newark P/N
RDK-IDM	Luminary Micro	2.8" display with PoE open-tooled Reference Design Kit	LM3S6918	1566975	45P3935
RDK-IDM-L35	Luminary Micro	3.5" landscape display Reference Design Kit	LM3S1958	1673912	45P3936

Document List:

Datasheets:

Part Number	Description	Size
LM3S9B92	Microcontroller	11.1MB

Application Notes:

File Name	Size
Programming the On-Chip Flash Memory in a Stellaris Microcontroller	94.6KB
Clocking options for Stellaris Family Microcontrollers	106KB
Adding 32KB of Serial SRAM to a Stellaris Microcontroller	109KB
Evaluating PeerSec Networks' MatrixSSL on a Stellaris Microcontroller	364KB
Upgrading to Luminary Micro's Stellaris Microcontrollers from Microchip's PIC Microcontrollers	123KB
Implementing RS-232 Flow Control on a Stellaris® Microcontroller	86KB
Using Schematic Part Libraries and PCB Footprint Libraries for Stellaris® Microcontrollers	190KB
Using the Stellaris® Ethernet Controller with Micro IP (uIP)	72.1KB
Using the Stellaris® Ethernet Controller with Lightweight IP (lwIP)	71.3KB
Serial-to-Ethernet Converter for Stellaris Microcontrollers	100KB
Configuring the Stellaris® LM3S9B92, LM3S9792, LM3S9B95, and LM3S9B96 Microcontrollers with Pin Multiplexing	152KB

Hardware & Software:

File Name	Size
Intelligent Display Module Single-Board Computer RDK User's Manual	456KB
Board Design Package for the RDK-IDM-SBC	744KB
Reference Design Kit CD for the RDK-IDM-SBC	91.4MB
RDK-IDM-SBC Firmware Development Package	28.1MB

Others Resources:

File Name	Size
IDM-SBC RDK Quickstart	188KB