LINK-51 Evaluation Kit

LINK-51 Features

Device Application Tools

- emMicro™ device object server
- Assembly source code - 8051
- "C" source code - 8051
- emPackage data table creation utility
- emMonitor and emUtilities device debugging tools
- emGateway™ device network connectivity software
    - —Five device connections per emGateway host
    - —20 simultaneous client connections per emGateway host (local connection only)

User Interface Tools

- emObjects™ JavaBeans™ compliant interface objects (trial version)
- EMIT Access Library client application toolkit
- "C" simulators of EMIT-enabled devices
- Web browser graphical user interface

Third-Party Development Tools

- Symantec Visual Café™ 3.0 interface design program (30-day evaluation)
- 8051 Shareware Assembler

The Philips LINK-51 evaluation kit comes with emWare®'s EMIT® 3.0 Evaluation networking software for the 51LPC family. emWare's Embedded Micro Internetworking Technology™ (EMIT) software is the only distributed device networking software based on standard Internet technologies that network 8- and 16-bit embedded devices over the Internet or any network. Applications of EMIT technology include utility metering, vending, healthcare, transportation, factory automation, security systems, environmental control, office equipment, and home automation. The LINK-51 provides a complete development environment for embedding network connectivity into electronic devices, which includes:

- 51LPC microcontroller
- EMIT 3.0 evaluation software
- 51LPC-based evaluation board
- Electronic documentation on disk

EMIT software allows access to the on-board 51LPC via your favorite web browser, as well as connections to several emMicro-enabled devices via a local RS232 network. By taking advantage of the special EMIT 3.0 upgrade offer included, you will be able to move to the EMIT SDK standard.

Software Highlights

The LINK-51 provides a complete development environment for creating EMIT-enabled networked devices with the emMicro device object server, leveraging the emGateway for network communications, and developing a graphical user interface for managing and controlling the device.

- The EMIT embedded device object server, emMicro, is provided in both C and assembly source code versions for the 8051.
- emMicro requires as little as 1Kbyte of ROM on a device (8051 assembly version).
- EMIT's distributed device object server architecture shifts significant resource requirements from the device to emGateway while still providing a rich, graphical interpretation of device controls.
- The LINK-51 includes assembly sample applications integrated with emMicro.
- emGateway provides a link between lightweight device networks and user interfaces like a web browser, PDA or phone.
- The EMIT Access Library facilitates the development of client-side interfaces.
- The EMIT Access Library supports popular programming languages such as C, C++, Java™, ActiveX®, Visual Basic®, etc.
- emGateway runs on Windows®95/98, NT, or WinCE.
- emMicro's versatile communications protocol supports modem, RS232, RS485, IR and RF (sold separately).
- When upgraded to EMIT SDK 3.0 Standard, developers have remote connectivity.
- EMIT's predefined library of JavaBeans compliant emObjects (trial version) enables quick and easy development of robust graphical user interfaces via Visual Café.
- The EMIT SDK includes several powerful low-level debugging tools.
- EMIT software is scalable and modular, enabling developers to choose which components will reside on the device, the emGateway, and the client-side server.

Let's make things better.

PHILIPS

Pre-Loaded Demo Applications

The applications pre-loaded on the 51LPC chip can be controlled in standalone mode or remote mode from a pre-built browser interface. The applications do the following:

- Control the brightness of 2 LEDs using a rotary pot (potentiometer)
- Switch between seven operating modes, including an HVAC demo, a sound demo, a watchdog demo and brownout demo
- Acquire data from the rotary
- Play back the data

Electronic Documentation

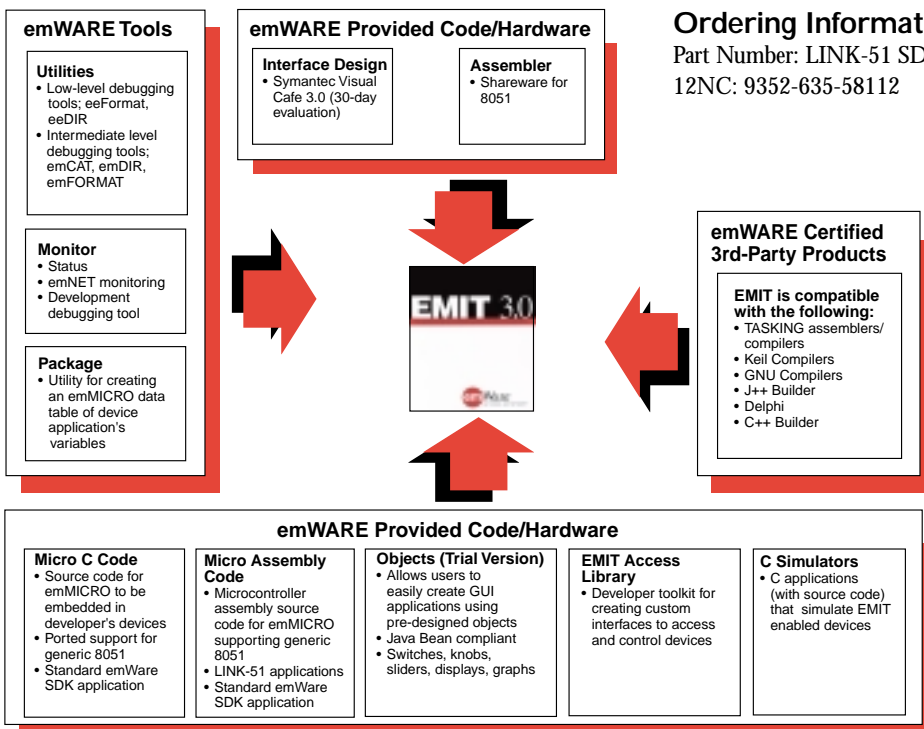The EMIT SDK documentation provides:

1. A complete description of the EMIT architecture.
2. Step-by-step tutorials on how to use the reference board and easily create user interfaces.
3. Start-to-finish development process guidelines.
4. Development procedures for the different user interface options.
5. Programming instructions and examples on integrating emMicro with your device.
6. Reference details on EMIT components and utilities.

Hardware Reference Design

- LINK-51 evaluation board for the 51LPC family
- RS232 support
- Expansion interface bus—for other hardware products—prototype board, HVAC

System Requirements for emGateway & emObjects

- 486 or faster CPU
- Windows 95/98 or Windows NT version 4
- At least 32MB of internal memory
- Netscape v4.05 with the JDK patch or Internet Explorer v4.0
- TCP/IP installed
- Available serial port
- CD-ROM drive
- Nine-pin D-type male (a 25-pin D-type female adapter will also be needed if the available serial port is 25-pin D-type male)
- Sufficient hard disk space for the following components:
  - 40MB for the EMIT development files
  - 80MB for Visual Café
  - 40MB of free hard disk space available to virtual memory to allow the EMIT user interface to load properly within your Web Browser.

Ordering Information

Part Number: LINK-51 SD
12NC: 9352-635-58112

emWARE Tools

Utilities
- Low-level debugging tools; eeFormat, eeDIR
- Intermediate level debugging tools; emCAT, emDIR, emFORMAT

Monitor
- Status
- emNET monitoring
- Development debugging tool

Package
- Utility for creating an emMICRO data table of device application's variables

emWARE Provided Code/Hardware

Interface Design
- Symantec Visual Cafe 3.0 (30-day evaluation)

Assembler
- Shareware for 8051

EMIT 3.0

emWARE Certified 3rd-Party Products

EMIT is compatible with the following:
- TASKING assemblers/ compilers
- Keil Compilers
- GNU Compilers
- J++ Builder
- Delphi
- C++ Builder

emWARE Provided Code/Hardware

Micro C Code
- Source code for emMICRO to be embedded in developer's devices
- Ported support for generic 8051
- Standard emWare SDK application

Micro Assembly Code
- Microcontroller assembly source code for emMICRO supporting generic 8051
- LINK-51 applications
- Standard emWare SDK application

Objects (Trial Version)
- Allows users to easily create GUI applications using pre-designed objects
- Java Bean compliant
- Switches, knobs, sliders, displays, graphs

EMIT Access Library
- Developer toolkit for creating custom interfaces to access and control devices

C Simulators
- C applications (with source code) that simulate EMIT enabled devices

For more information, contact your Philips Semiconductors distributor or www.semiconductors.philips.com

Let's make things better.

PHILIPS

SUNSTAR 商斯达实业集团是集研发、生产、工程、销售、代理经销 、技术咨询、信息服务等为一体的高科技企业，是专业高科技电子产品生产厂家，是具有 10 多年历史的专业电子元器件供应商，是中国最早和最大的仓储式连锁规模经营大型综合电子零部件代理分销商之一, 是一家专业代理和分銷世界各大品牌 IC 芯片和電子元器件的连锁经营綜合性国际公司，专业经营进口、国产名厂名牌电子元件，型号、种类齐全。在香港、北京、深圳、上海、西安、成都等全国主要电子市场设有直属分公司和产品展示展销窗口门市部专卖店及代理分销商,已在全国范围内建成强大统一的供货和代理分销网络。 我们专业代理经销、开发生产电子元器件、集成电路、传感器、微波光电元器件、工控机/DOC/DOM 电子盘、专用电路、单片机开发、MCU/DSP/ARM/FPGA 软件硬件、二极管、三极管、模块等，是您可靠的一站式现货配套供应商、方案提供商、部件功能模块开发配套商。商斯达实业公司拥有庞大的资料库，有数位毕业于著名高校——有中国电子工业摇篮之称的西安电子科技大学（西军电）并长期从事国防尖端科技研究的高级工程师为您精挑细选、量身订做各种高科技电子元器件，并解决各种技术问题。

微波光电部专业代理经销高频、微波、光纤、光电元器件、组件、部件、模块、整机；电磁兼容元器件、材料、设备；微波 CAD、EDA 软件、开发测试仿真工具；微波、光纤仪器仪表。欢迎国外高科技微波、光纤厂商将优秀产品介绍到中国、共同开拓市场。长期大量现货专业批发高频、微波、卫星、光纤、电视、CATV 器件： 晶振、VCO、连接器、PIN 开关、变容二极管、开关二极管、低噪晶体管、功率电阻及电容、放大器、功率管、MMIC、混频器、耦合器、功分器、振荡器、合成器、衰减器、滤波器、隔离器、环行器、移相器、调制解调器；光电子元器件和组件：红外发射管、红外接收管、光电开关、光敏管、发光二极管和发光二极管组件、半导体激光二极管和激光器组件、光电探测器和光接收组件、光发射接收模块、光纤激光器和光放大器、光调制器、光开关、DWDM 用光发射和接收器件、用户接入系统光光收发器件与模块、光纤连接器、光纤跳线/尾纤、光衰减器、光纤适 配器、光隔离器、光耦合器、光环行器、光复用器/转换器；无线收发芯片和模组、蓝牙芯片和模组。

更多产品请看本公司产品专用销售网站：

商斯达中国传感器科技信息网：http://www.sensor-ic.com/

商斯达工控安防网：http://www.pc-ps.net/

商斯达电子元器件网：http://www.sunstare.com/

商斯达微波光电产品网:HTTP://www.rfoe.net/

商斯达消费电子产品网://www.icasic.com/

商斯达实业科技产品网://www.sunstars.cn/ 　微波元器件销售热线：

　　地址：深圳市福田区福华路福庆街鸿图大厦 1602 室

　　电话：0755-82884100 83397033 83396822 83398585

　　传真：0755-83376182 （0）13823648918 MSN: SUNS8888@hotmail.com

　　邮编：518033 E-mail:szss20@163.com 　QQ: 195847376

　　深圳赛格展销部：深圳华强北路赛格电子市场 2583 号 电话：0755-83665529 　25059422

　　技术支持：0755-83394033 13501568376

欢迎索取免费详细资料、设计指南和光盘 ；产品凡多，未能尽录，欢迎来电查询。

　　北京分公司：北京海淀区知春路 132 号中发电子大厦 3097 号

　　　　TEL：010-81159046 82615020 13501189838 FAX：010-62543996

　　上海分公司：上海市北京东路 668 号上海赛格电子市场 D125 号

　　　　TEL：021-28311762 56703037 13701955389 FAX：021-56703037

　　西安分公司：西安高新开发区 20 所(中国电子科技集团导航技术研究所)

　　　　　　西安劳动南路 88 号电子商城二楼 D23 号

　　　　TEL：029-81022619 13072977981 FAX:029-88789382