Overview

The Vadem VG330 Evaluation board provides a highly configurable platform for designers of battery-operated personal electronic products to show proof-of-concept, evaluate design tradeoffs or prototype software and hardware. The designer can evaluate all the features and configuration options of the Vadem VG330 single-chip platform and quickly configure a first-cut approximation of the target system. Some example uses:

✔ *Evaluate software early in development process*
✔ *Study performance vs. power tradeoffs*
✔ *Evaluate power consumption with different memory types*
✔ *Configure matrix keyboard key layout*

A PCMCIA 2.1 (JEIDA 4.2) ExCA compatible PC card slot is supported. This slot supports PC Card ROM, RAM, FLASH and PC Card I/O cards.

The VG330-EVAL board provides a standard serial port configurable for COM1 or COM2. This port may also be used as an IrDA interface.

An on-board 8473 floppy disk controller provides support for easy software loading from up to two floppy drives. The standard formats of 360K, 720K, 1.2M and 1.44M are supported.

A special card-format firmware expansion slot is also included.

Key Features

■ Complete motherboard type design, based on the Vadem VG330 32MHz single-chip PC platform

■ LCD interface for 640 x 480 AT&T, CGA and smaller panels

■ Support for standard XT-style keyboard or X-Y keyboard matrix (supplied).

■ RS-232 serial port interface

■ IrDA serial interface

■ PCMCIA 2.1 (JEIDA 4.2) ExCA™ PC card slot

■ Support for DRAM, SRAM, PSRAM and Self-Refresh DRAM

■ Support for up to 512K EPROM

■ Support for FLASH EPROM

■ Floppy disk interface supports up to 1.44MB floppies

■ Option switches allow quick reconfiguration of I/O ports

■ Expansion connector provides access to ISA signals

■ Wire-wrap area for prototyping custom circuitry

■ Dual Hex LEDs display Power-On Self Test (POST) codes

■ Includes standard BIOS plus significant extensions

■ Includes Microsoft® MS-DOS® ROM Version 5.00 for instant boot-up

■ Piggyback connector for optional Vadem VG330-ICE adapter (allows debugging with a standard 286 ICE)

■ Card-format firmware expansion slot facilitates development of ROM-based code.

Functional Description

- Three types of RAM memory are supported via Memory Modules.
  - ✔ PSRAM/SRAM Memory Module
  - ✔ Up to 4 Mbytes using 8 512Kx8 PSRAMs, 16 bit array
  - ✔ Up to 1 Mbyte using 8 128K x 8 SRAMs, 16 bit array
  - ✔ X8 DRAM Memory Module
  - ✔ Up to 4 Mbytes using 512Kx8 DRAMs, 16 bit array
  - ✔ X16 DRAM Memory Module
  - ✔ Up to 4 Mbytes using 256Kx16 DRAMs, 16 bit array

- The EPROM array supports 128Kx8 EPROM devices in JEDEC packages. Sockets for 4 devices provide up to 512K of ROM. Optionally a ROM IC card may be used for arrays up to 32 MB.

- The VG330 supports either a scanned X-Y matrix keyboard or a standard serial XT-style keyboard. Configuration jumpers on the VG330-EVAL board allow the user to select either one.

- The included Vadem BIOS provides a basic PC-compatible BIOS core. In addition, the BIOS provides support for these advanced features:
  - ✔ Power management
  - ✔ Suspend/Resume
  - ✔ PCMCIA card
  - ✔ Scanned keyboard
  - ✔ VG330 setup configuration
    — RAM type
    — Display type
    — Keyboard select
    — Floppy drive type select

  - ✔ Serial I/O debugger
  - ✔ Power On Self Test (POST)
  - ✔ Real Time Clock support

- The on-board EPROM includes Microsoft® MS-DOS® ROM Version 5.00 with utilities. The VG330-EVAL board can be booted directly from ROM.

- The following accessories are also included in the VG330-EVAL board:

  - ✔ Utility Disk
    — EMS 4.0 drivers
    — BIOS Configuration Utility
    — VG330-EVAL schematics in Orcad format
    — VG330-EVAL parts list

  - ✔ 8 x 14 Matrix Keyboard with cable
  - ✔ VG330-EVAL User's Manual
  - ✔ VG330 Data Manual

Mechanical Specifications:

Physical	9.25 in. x 13.0 in.
Electrical	+5V ±5% @ 1A max
Environmental Temperature:	0º to 50º C
Humidity:	8% to 80%
Order Number	VG330-EVAL