

**Product Bulletin**

# SFF SDR Evaluation Module

**Overview**

The Small Form Factor (SFF) Software-defined Radio (SDR) Evaluation Module is a unique new product that addresses the special portable SDR needs of the public safety and commercial markets. It was designed around the latest DSP and FPGA technology as a low-cost, off-the-shelf, integrated hardware and software development solution.

**Potential Applications**

The following applications will benefit greatly from using the SFF SDR Evaluation Module.

**Public safety**

- Such public safety applications as TETRA and APCO band communications, vehicular systems, transponders, and broadband data systems will be greatly enhanced by their use of the SFF SDR Evaluation Module.

**Commercial**

- RFID readers, WiMAX and Wi-Fi customer-premises equipment (CPE), broadband data systems, vehicular systems, as well as femto and pico base stations are but a few applications that can be developed

**Key Benefits**

- Small form factor for easy portability
- Self-contained
- Embedded, independent power monitoring for each processor
- Supports model-based design tools, accelerating prototyping
- Integrated troubleshooting and hardware-in-the-loop co-verification capabilities
- The module incorporates GPP, DSP and FPGA, making it easy to implement all protocol layers for a complete radio
- Easy adoption of third-party RF and I/O boards
- Ethernet remote access capabilities

with the SFF SDR Evaluation Module.

*Note:* These applications may require conversion and RF modulation.

**Key Features**

The SFF SDR Evaluation Module includes the following leading-edge features:

- TMS320DM6446 DSP system-on-chip from Texas Instruments
  - TMS320C64x+™ DSP core, 594 MHz
  - ARM926 core, 297 MHz
  - Rich set of peripherals including serial ports, USB, EMAC, DDR2 EMIF, as well as video ports
- Virtex-4 SX35 FPGA from Xilinx
- Modular — allows additional boards to be stacked
- Boot loader located in the Flash memory for autonomous use of the platform



## Specifications

### Digital Processing Module

- TMS320DM6446 DSP system-on-chip from Texas Instruments
  - 297-MHz ARM926EJ-S RISC CPU
  - 594-MHz C64x+™ DSP
- Virtex-4 SX35 FPGA from Xilinx
- MSP430 MCU from Texas Instruments for power management

### Onboard memory

- 128-MB NAND Flash memory
- 128-MB DDR2 SDRAM

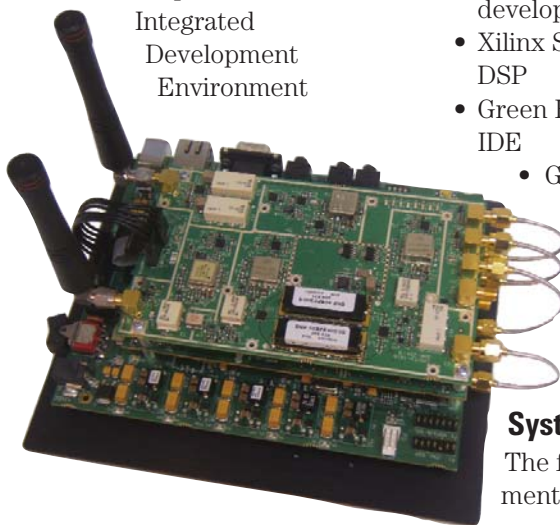
### I/O interfaces

- RJ-45 10/100-Mbps Ethernet
- JTAG probing access
- Stereo audio codec with audio input and output
- RS-232 connector
- JTAG interfaces for DSP and FPGA
- LYRIO connector as expansion port

### Supported Software Development Tools

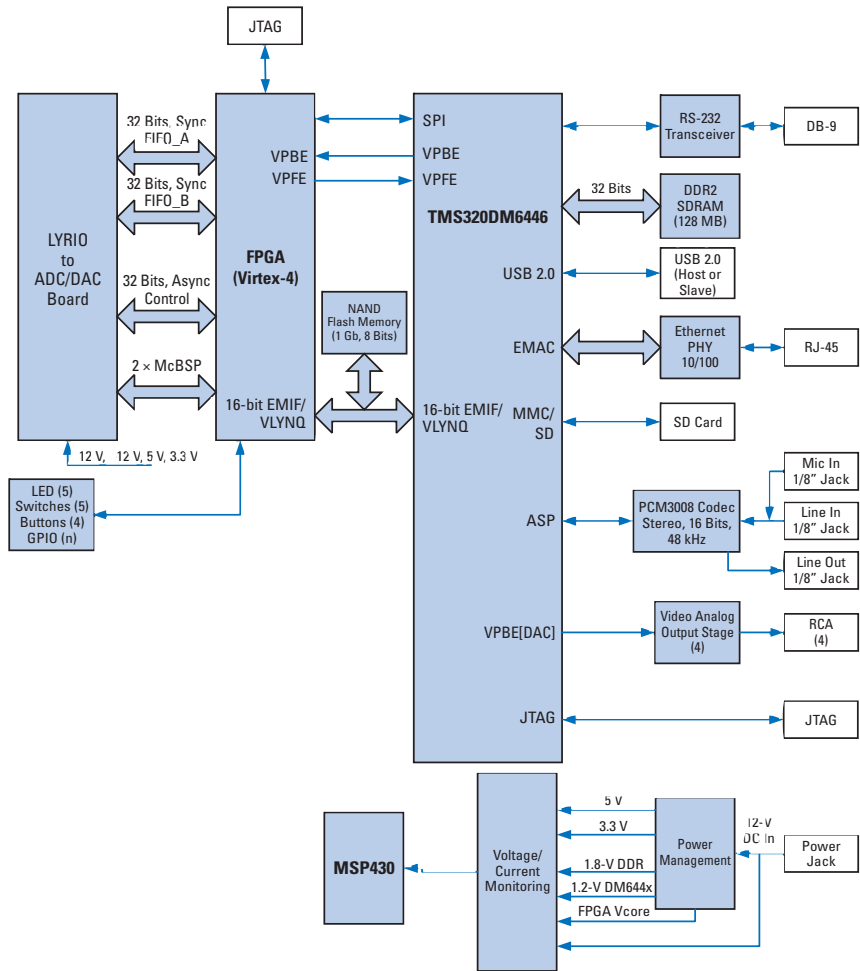
The SFF SDR Evaluation Module supports the following software development tools:

- Texas Instruments Code Composer Studio™ Integrated Development Environment
- Xilinx ISE Foundation for FPGA development
- Xilinx System Generator for DSP
- Green Hills Software MULTI® IDE
  - Green Hills Software POSIX-compliant INTEGRITY® real-time operating system
  - The MathWorks MATLAB® and Simulink™



### System Requirements

The following system requirements must be met to use the



SFF SDR Development Platform.

### Operating system

- Windows® XP Professional (service pack 2)

### Hardware

- IBM-compatible computer
- *Processor*: Pentium III (or equivalent) or better
- *RAM*: 1 GB
- *Hard disk drive*: 40 GB of free space or more
- *Display*: 800 × 600 pixels or more

### Get Started Today

For more information and ordering, go to [www.ti.com/sdr](http://www.ti.com/sdr).

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