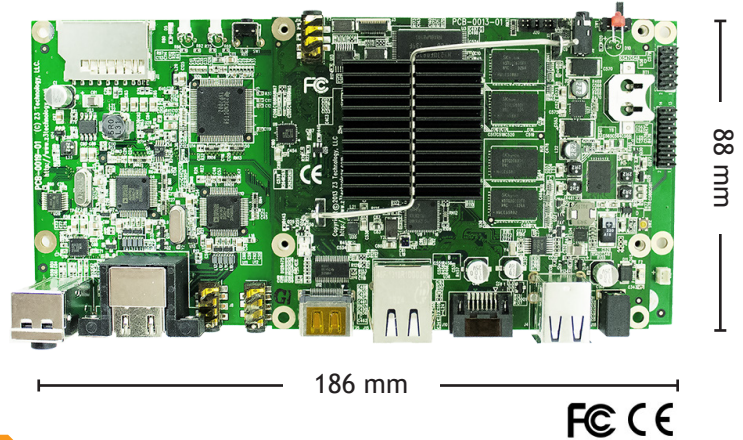# Z3-DM8148-RPS
Rapid Production Starter Kit

88 mm

186 mm

The Z3-DM8148-RPS is a starter kit that allows encode and decode of up to one channel of 1080p60 in H.264. The Z3-DM8148-RPS consists of a hardware package and software bundle designed to enable rapid development of multimedia applications. The hardware consists of one Z3-DM8148-MOD-2x System on Module card and one Z3-DM8168-APP-0x application board. The software bundle consists of the necessary components for developing advanced multimedia, graphics, and DSP applications.The Z3-DM8148-MOD-2x is a compact OEM module and is especially suited for power-sensitive applications requiring a single video stream. The application board uses the I/O expansion capability of the Z3-DM8148-MOD-2x to implement additional functions not present in the base module.

BENEFITS

> Versatile encoding modes such as: low latency, low bitrate and high quality

> Production-proven, fully integrated hardware and software audio/video system

> Easily controlled through RS-232 or an HTTP-based GUI

> Full A/V synchronization even after hours of recording

> Ready to use, out-of-the-box commands for encoding, decoding and streaming

APPLICATIONS

Video Security and Surveillance

Industrial Applications

Medical Video

Commercial and Educational Video

Broadcast Video Encoding

Customized Applications*

*Contact Z³ Technology for Customized Product Options

sales@Z3technology.com

+1.402.323.0702

www.Z3technology.com

Hardware

Module	Z3-DM8148-MOD-2x
Application Board	Z3-DM8168-APP-0x
Processor	DSP + ARM Cortex A8
Video Inputs	2x HDMI, 2x Component and 2x Composite
Video Outputs	HDMI and Composite
Video Codecs	H.264 and MPEG-2
Audio Interfaces	Analog Stereo and Embedded HDMI
Audio Codecs	AAC, G.711* and PCM*
Additional Interfaces	GigE, SD Card, SATA2, 2x USB 2.0 and Serial

Software

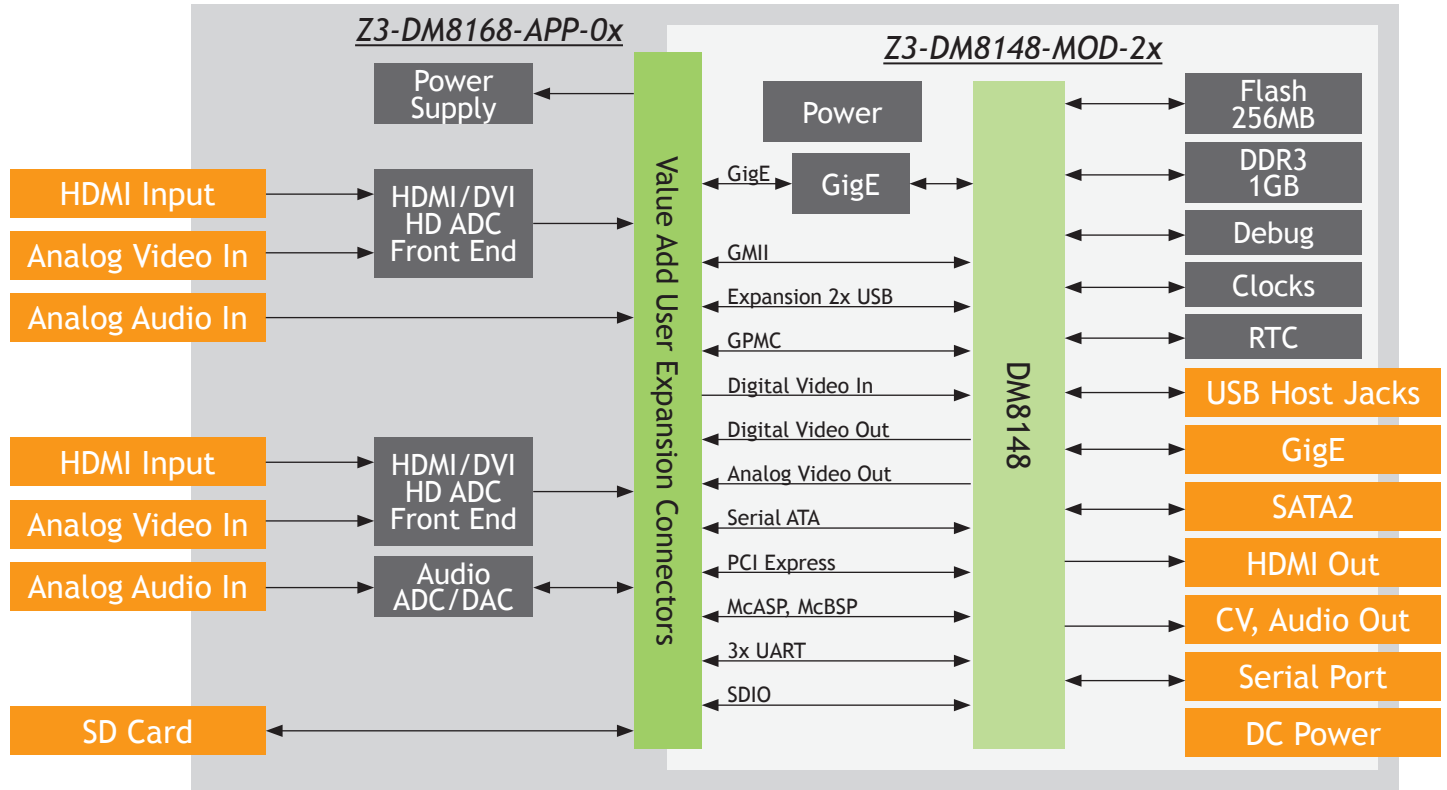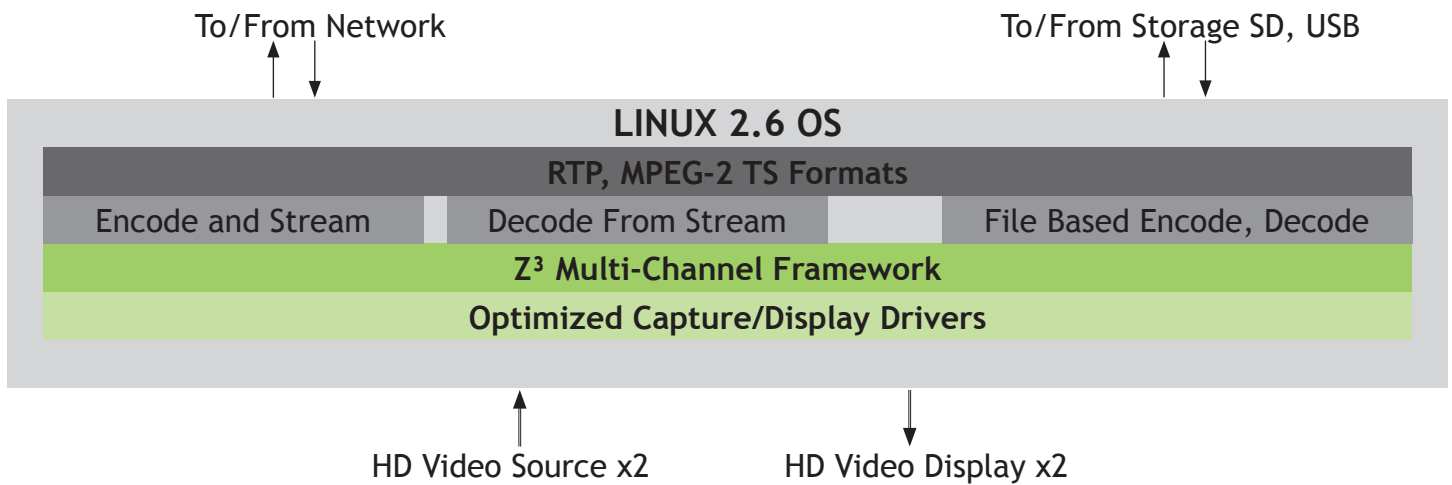|	
Software Development	Texas Instruments® RDK, Z³ Technology software components for RDK, Z³ Applications
Operating System	Linux 2.6 (root file-system, NAND boot, tool chain and flash programming tool), u-boot
Encoding Resolutions	H.264 video from QCIF to 1080p/i at 60 fps Dual channel encode up to 2x 1080i
Output Formats	RTP and MPEG-2 TS
Decoding Resolutions	H.264 video from QCIF to 1080p/i at 60 fps
Input Formats	RTP and MPEG-2 TS
Features	• Low latency mode • Flexible resizer to allow full frame display of smaller resolutions • Fully controllable parameters: resolution, max bitrate, GOP and on-the-fly bitrate control • File-based transcoder in H.264 and MPEG-2 available* • Source code license available*

Specifications

Module Size	108 x 88 mm (4.25 x 3.46 in)
Application Board Size	186 x 88 mm (7.32 x 3.46 in)
Power Supply	12V
Power Consumption	7W

HW Block Diagram

Z3-DM8148-RPS

Z3-DM8168-APP-0x

Z3-DM8148-MOD-2x

Power Supply

Power

Flash 256MB

HDMI Input

Analog Video In

HDMI/DVI HD ADC Front End

GigE — GigE

DDR3 1GB

Debug

Analog Audio In

GMII

Expansion 2x USB

Clocks

RTC

GPMC

Digital Video In

USB Host Jacks

HDMI Input

Analog Video In

HDMI/DVI HD ADC Front End

Digital Video Out

Analog Video Out

GigE

SATA2

Analog Audio In

Audio ADC/DAC

Serial ATA

PCI Express

HDMI Out

CV, Audio Out

McASP, McBSP

3x UART

Serial Port

SD Card

SDIO

DC Power

Value Add User Expansion Connectors

DM8148

SW Block Diagram

To/From Network

To/From Storage SD, USB

LINUX 2.6 OS

RTP, MPEG-2 TS Formats

Encode and Stream | Decode From Stream | File Based Encode, Decode

Z³ Multi-Channel Framework

Optimized Capture/Display Drivers

HD Video Source x2

HD Video Display x2

Z³ Technology is the market leader in providing production-ready embedded multimedia solutions and systems. From our founders to our world-class engineers to our sales and customer service team, we understand your requirements and speak your language. Our experience allows us to provide cost-effective solutions to meet your multimedia product requirements. With the assistance of our robust worldwide distribution and sales networks, we can provide a simple solution for your multimedia needs.