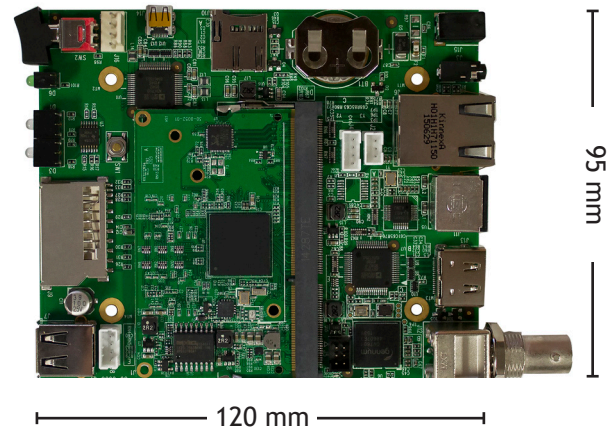# Z3-HE1080-RPS
Rapid Production Starter Kit

The Z3-HE1080-RPS starter kit allows HEVC/H.265 or H.264 encode of 1080p60 video through SDI or HDMI inputs, and encode of SD video through a composite input. It consists of a hardware package and software bundle designed to enable rapid development of multimedia applications. The hardware consists of one Z3-HE1080-MOD-0x System on Module card and one Z3-HE1080-APP-0x Application (I/O) Board. The Z3-HE1080-MOD-0x is a compact OEM module which supports up to 1080p60 HEVC encode in streaming or storage mode. The application board uses the I/O expansion capability of the Z3-HE1080-MOD to implement additional functions not present in the base module. The software bundle consists of the necessary components for developing advanced multimedia, graphics, and DSP applications.

BENEFITS

> HEVC/H.265 high efficienct encode in full HD resolutions through HDMI or 3G-SDI interfaces

> Compact design ideal for quick implementation in customized solutions

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

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

APPLICATIONS

Medical Video Applications

Video Security and Surveillance

Industrial Video Applications

Government/Military Applications

Broadcast Video Encoding

Customized Applications*

*Contact Z³ Technology for Customized Product Options

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Hardware

Module	Z3-HE1080-MOD-0x
Application Board	Z3-HE1080-APP-0x
Processor	ARM A7 at 600 MHz
Video Inputs	3G-SDI, HDMI and Composite
Video Codecs	HEVC/H.265 and H.264
Audio Interfaces	Embedded HDMI and Embedded SDI
Audio Codecs	AAC, G.711* and PCM*
Additional Interfaces	GigE, USB 2.0, SD Card, Micro SD Card and RS-232 Serial

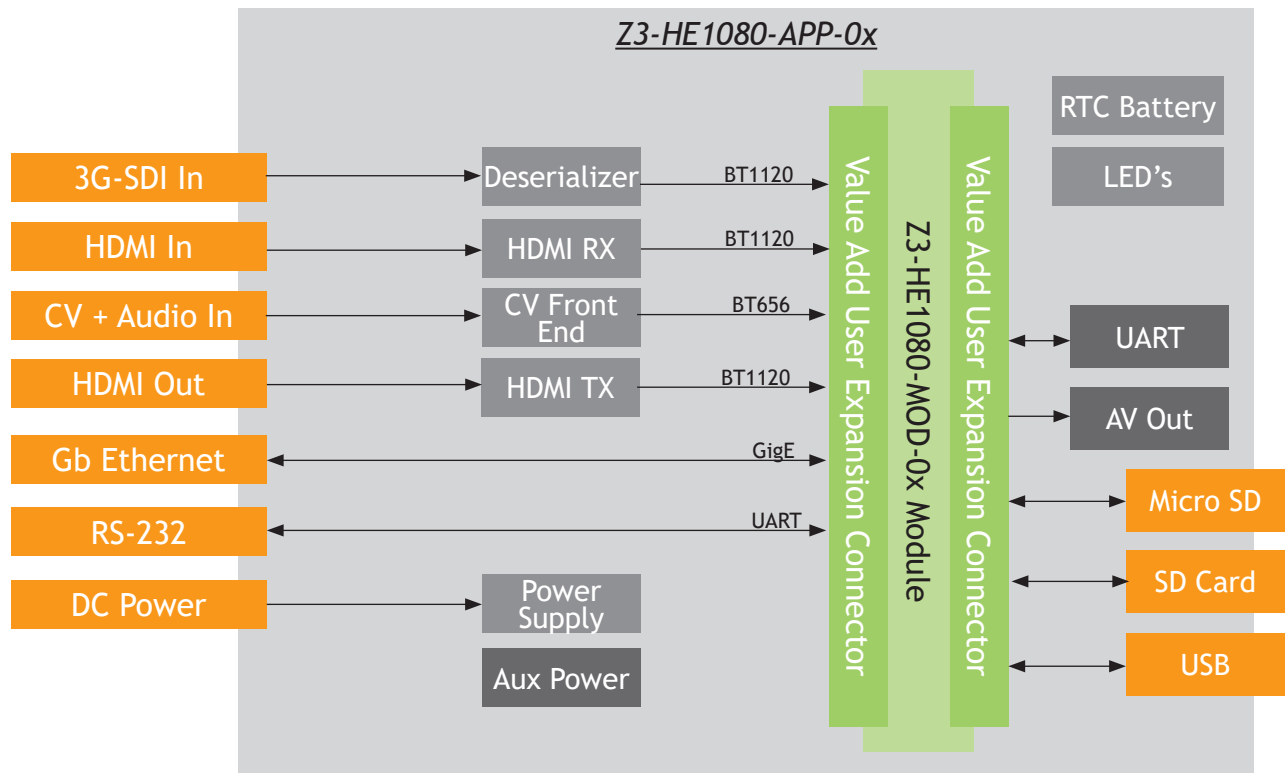## Software

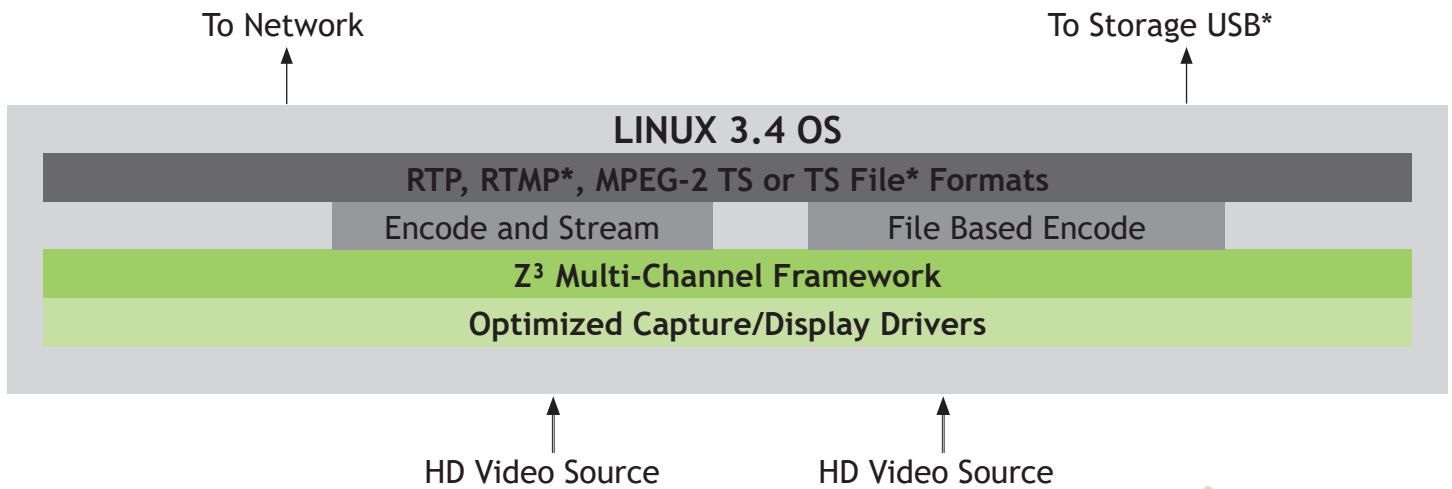|	
Operating System	Embedded Linux (root file-system, NAND boot, tool chain and flash programming tool), u-boot
Encoding Resolutions	HEVC/H.265 or H.264 encode in resolutions from QCIF to 1080p at 60 fps
Output Formats	RTP, RTSP, MPEG-2 TS, RTMP*, TSRTP, MPTS* and TS File*
Features	• Pro-MPEG Forward Error Correction (FEC) • Zixi Feeder™ enabled • KLV support • Ultra low bandwidth support • Low latency mode • Fully controllable parameters: resolution, max bitrate, GOP and on-the-fly bitrate control • Source code license available*

Specifications

Module Size	68 x 42 mm (2.66 x 1.65 in)
Application Board Size	120 x 95 mm (4.72 x 3.75 in)
Power Supply	5V
Power Consumption	4.1W

HW Block Diagram

Z3-HE1080-RPS

Z3-HE1080-APP-0x

3G-SDI In → Deserializer — BT1120	
HDMI In → HDMI RX — BT1120	
CV + Audio In → CV Front End — BT656	
HDMI Out → HDMI TX — BT1120	
Gb Ethernet ← GigE	
RS-232 ← UART	
DC Power → Power Supply	
	Aux Power

Value Add User Expansion Connector
Z3-HE1080-MOD-0x Module
Value Add User Expansion Connector

RTC Battery
LED's
UART
AV Out
Micro SD
SD Card
USB

SW Block Diagram

To Network ↑   To Storage USB* ↑

LINUX 3.4 OS

RTP, RTMP*, MPEG-2 TS or TS File* Formats

Encode and Stream   File Based Encode

Z³ Multi-Channel Framework

Optimized Capture/Display Drivers

↑ HD Video Source   ↑ HD Video Source

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