

## OVERVIEW

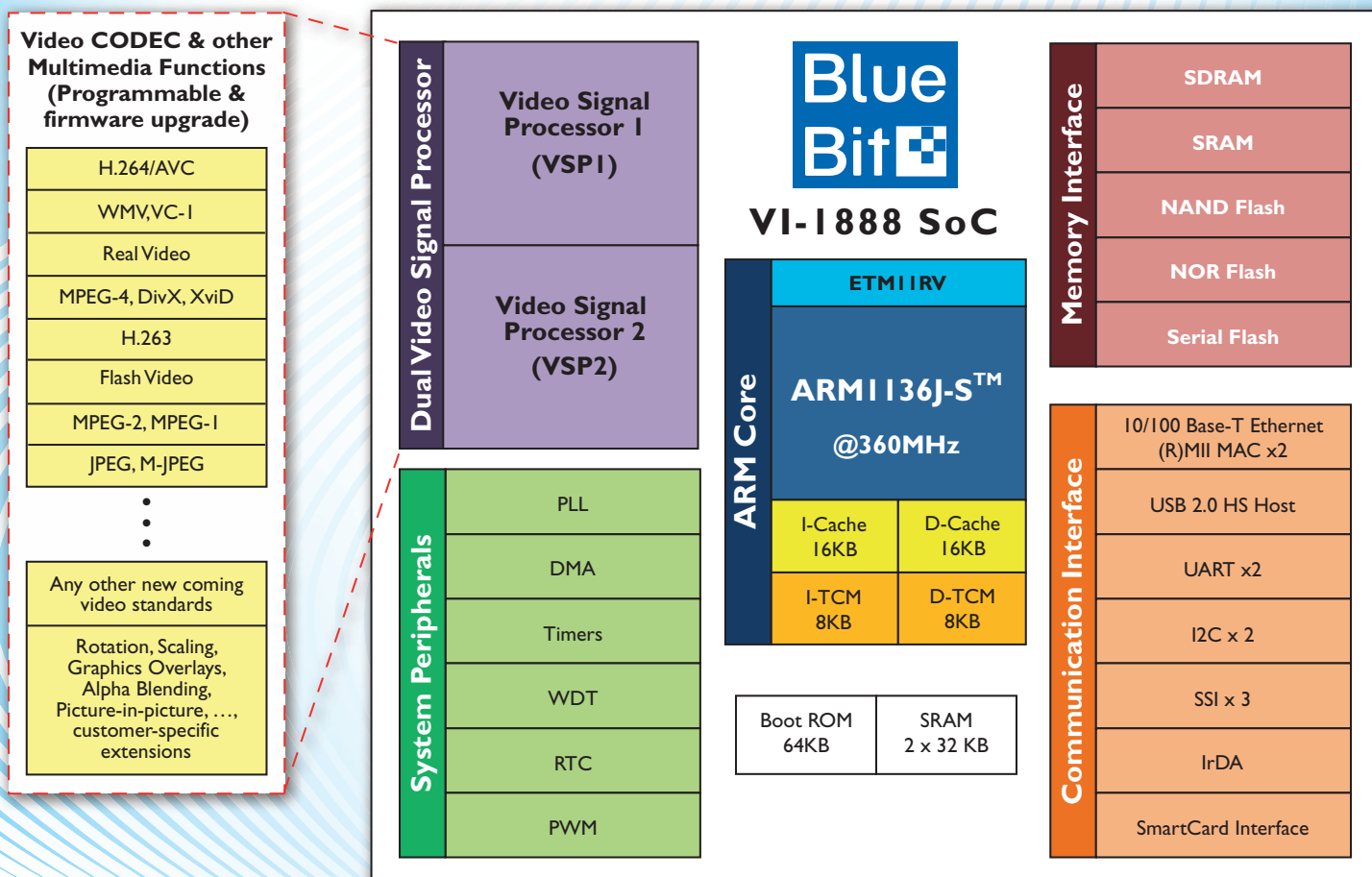
VI-1888 is a highly integrated System-on-Chip (SoC) for general, multimedia oriented and communication applications. VI-1888 takes an advantage of the ARM1136J-STM core running up to 360MHz, and is powered by a dual multi-purpose Video Signal Processor (VSPI and VSP2) running at 240MHz.

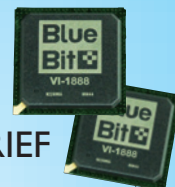
The dual Video Signal Processor is programmable which enables a full range of multimedia codecs to be implemented in software. This provides the flexibility to the system designer without the costly overhead and time-to-market uncertainty of hardware accelerators. The codec upgrade and customer-specific extensions addition can be done easily by firmware upgrade.

Dual 10/100 Ethernet MAC, USB host, configurable serial ports, 100 programmable GPIO lines and TFT/STN LCD interface provides high speed and widely connectivity for different applications. This highly integrated SoC has reduced number of external component required which results in a very cost-effective system solution.

Along with well-suited Linux BSP and associated tools and application software, it gives developers design flexibility to deliver fast time-to-market products.

## BLOCK DIAGRAM





### FEATURES AND PERFORMANCE

<b>ARM1136EJ-S CPU Core</b>	<b>On-chip Peripherals</b>
<ul style="list-style-type: none"> <li>• Operating @ up to 360MHz</li> <li>• ETMI IRV for Real-Time Debug</li> <li>• Multilayer 32/64-bit bus with full DMA support</li> <li>• 16KB Instruction Cache</li> <li>• 16KB Data Cache</li> <li>• 8KB ITCM</li> <li>• 8KB DTCM</li> <li>• 2 x 32KB SRAM and 64KB Boot ROM</li> </ul>	<ul style="list-style-type: none"> <li>• YUV interface up to VGA resolution</li> <li>• USB 2.0 full-speed Host with ULPI interface</li> <li>• 2 x Ethernet 10/100 base-T MAC (MII/RMII)</li> <li>• Smartcard interface (ISO 7816)</li> <li>• 2 x I2C / UART / I2S</li> <li>• Camera I/F – ITU-R BT.601, Bayer-8/16</li> <li>• LCD / Keypad – 96 line programmable GPIO</li> <li>• TFT LCD interface</li> <li>• Up to 100 General-Purpose I/O pins</li> </ul>
<b>Video Processing Subsystem</b>	<b>Audio</b>
<ul style="list-style-type: none"> <li>• Operating @ up to 240MHz</li> <li>• Supporting MPEG2, MPEG4, H.263, H.264 video encoding and decoding simultaneously up to VGA resolution @ 30fps</li> <li>• Decoding up to DI resolution @ 30fps</li> <li>• Future video standards through firmware update</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated 4-channel voice CODEC</li> <li>• 3 x configurable Serial Port – I2S, AC97, PCM, SSI, IOM</li> </ul>
<b>External Memory Interface</b>	<b>Operating Temperature</b>
<ul style="list-style-type: none"> <li>• SDRAM, SRAM, NOR Flash up to 1GB</li> <li>• NAND Flash, serial Flash with flexible boot options</li> </ul>	<ul style="list-style-type: none"> <li>• 0°C – 70°C (commercial)</li> </ul>
<b>Operating Conditions</b>	<b>Package</b>
<ul style="list-style-type: none"> <li>• 1.2V for core</li> <li>• 3.3V for I/O</li> </ul>	<ul style="list-style-type: none"> <li>• 388-pin BGA, 27 x 27 mm<sup>2</sup> with 1 mm ball pitch</li> </ul>

### DUAL VIDEO SIGNAL PROCESSOR

VI-I888 is equipped with a dual dynamic video signal processor that enables full duplex video applications. It supports wide range of video /imaging standards and can easily to support coming new video/imaging standards by firmware upgrade. Any pre- and post-image processing features like rotation, scaling, graphic overlays, alpha blending, picture-in-picture are embedded and additional customer-specific extensions can be value-added through the proprietary programmable video processing cores.

### Wide Range of Video/Imaging Standards

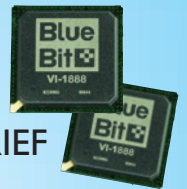
- H.264/AVC
- WMV-9, VC-1
- RealVideo 8/9/10
- MPEG-4 ASP, DivX, XviD
- MPEG-4 SP, H.263
- Flash Video (Sorenson Spark)
- On2 VP6
- MPEG-2
- MPEG-1
- JPEG, M-JPEG
- Any other new coming standards or customer-specific extensions by firmware upgrade

### Highest Quality of Real-time Video

- Encoder / decoder up to 720p
- Full-duplex codec up to DI
- Full frame rate up to 30fps

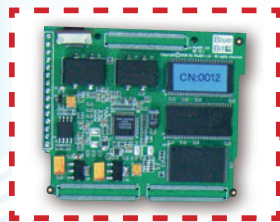
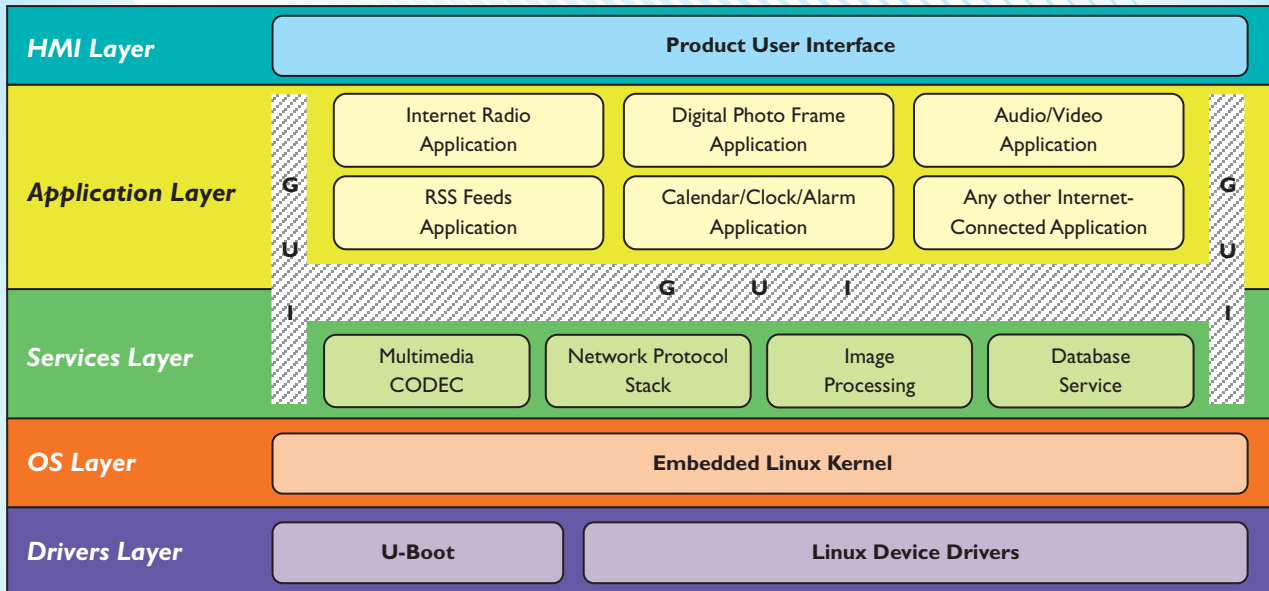
### Extended Video/Image Processing Features

- Image Enhancements, Rotation, Scaling
- Graphics overlays, Blending, Picture in picture
- Deinterlacing, denoising, deblocking
- Color Conversion (RGB/YUV, YUV/RGB)
- Error robustness
- Customer-specific extensions

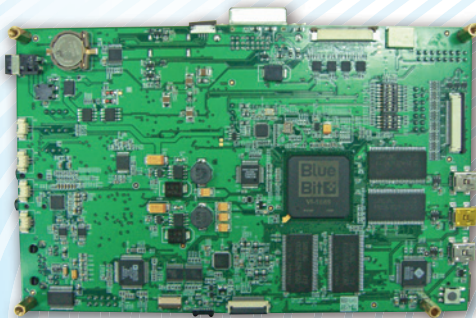


## SOFTWARE AND HARDWARE SUPPORT

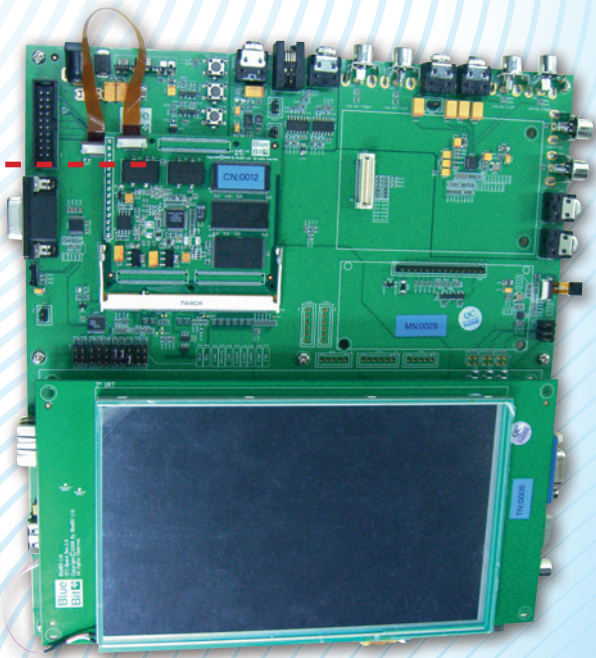
BlueBit delivers the complete system software with maintenance and customizations at different levels. BlueBit provides a Software Development Kit (SDK) for Linux operating system which includes VI-I888 drivers, software services & libraries, and pre-built application software.



**M3 CPU Board**



**MID**



**M3**

BlueBit delivers hardware development kit and various kinds of evaluation boards. All these are equipped with a rich set of peripherals and memory which are designed to reduce customers' application time-to-market. The hardware development kit provides dual Ethernet and USB host interfaces, along with many other serial communication ports such as SPI and USARTs. The 7" touch-screen LCD and the expansion connector allow advanced product evaluation and code development for applications.