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Security gateway runs Linux on Cortex-A8 SoC

Jan. 13, 2009

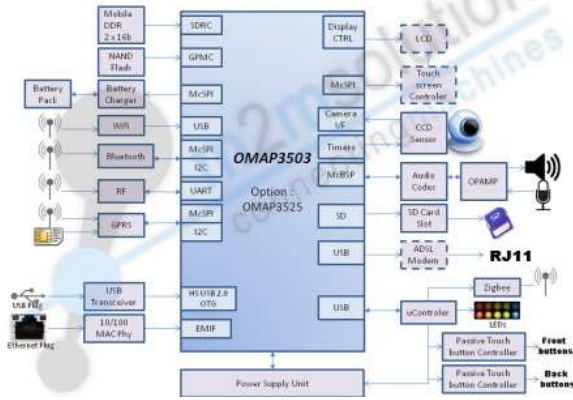


M2M Solution announced a security gateway reference design based on the Texas Instruments (TI) OMAP3503 system-on-chip (SoC). The Homebox runs Linux, enables remote monitoring of real-time video and security sensors, and will soon be sold by MYXYTY under the name MyHome, says M2M.

[\(Click for larger view of the Homebox\)](#)

Based in the [Ville de Valbonne Sophia Antipolis](#), France, where MYXYTY also has its headquarters, M2M Solution develops security "concepts," ranging from hardware to ongoing services, for telecom, insurance, and industrial security companies. M2M says it developed the Homebox for the OEM market in "only" nine months, and it credits TI's "thorough" Linux board support package (BSP) and development tools.

The Homebox can transcode real-time video from a built-in security camera or WiFi-connected cameras. It can read data from motion or smoke detectors, scan the status of doors and windows, and interact with individuals inside the monitored area to determine if intruders are present, says M2M. Users can monitor the video and sensors from mobile phones and web-connected PCs, according to the company.



Homebox architecture
(Click to enlarge)

The Homebox is based on the OMAP3503, the most affordable and lowest powered of the four [OMAP35xx SoCs](#) that TI shipped this summer. The OMAP3503 incorporates the same superscalar 600MHz ARM Cortex-A8 core as the other OMAP35xx parts, but lacks multimedia extras like its siblings's OpenGL ES 2.0 support and DSP-based HD video acceleration.

Measuring 5.5 x 5.5 x 3.2 inches (14 x 14 x 8 cm), the Homebox is equipped with a 5MP camera that works in low light, with a range of 140 degrees. It can also accept signals from separate WiFi-enabled cameras. The OMAP3503 transcodes camera data for real-time viewing on mobile phones or PCs.

The Homebox offers WiFi, as well as an Ethernet port for linking up to a broadband router, and is equipped with a GSM radio for non-broadband sites, or as a backup. In addition, it includes an 868MHz RF link that can connect to a variety of security and safety sensors and external sirens. The Homebox offers Bluetooth and ZigBee ports, as well, but these features won't be exploited until a future version. The ZigBee radio, RF radio, audio codecs, power management ICs, and other components are also furnished by TI, says the company.

The OMAP3503 draws less than 1W, says the company, enabling the plastic-chassis device to run silently, without the need for fans or heat sinks. If an intruder cuts off the power supply, a backup battery is said to run the Homebox for four

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hours, also triggering the Homebox to send an intrusion alert via email, text message, MMS, or an automated voice message. In addition, recordings of audio/video data are sent to a service provider's server archives, so intruders cannot permanently destroy the recording, says M2M.

MYXYTY's MyHome

The Homebox has been adopted by several customers, including security vendor MYXYTY, says M2M. MYXYTY is introducing a home security gateway system called [MyHome](#), based on the HomeBox. MYXYTY's system will provide security portals to monitor "vehicles, children, seniors, and even pets wearing special collars." (We assume only the pets are forced to wear the collars, but you never know.)

Stated Arnaud Duclap, COO, M2M Solution, "TI provided a complete system level solution with the OMAP 3 applications processor, RF transceivers, audio codecs and power-management devices. Additionally, the TI development tools and Linux board-support package allowed us to save time and money using open source codecs for MPEG-4 and H.263, so we were able to modify our base concept to meet unique customer requirements."

Stated Elizabete de Freitas, DSP Catalog business development manager, TI, "M2M has done a great job adapting our technology so they can break cost barriers and create a first-of-its-kind home security gateway."

Availability

M2M Solution's Homebox is available now for the OEM market. The company did not say when MYXYTY's MyHome consumer device based on the Homebox will ship, nor did it offer pricing.

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