

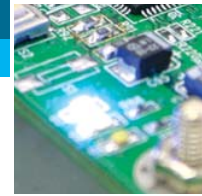
ASTRI's R&D Groups

Enterprise & Consumer Electronics

With the maturity of the wireless and broadband network infrastructures, the trends to use and share digital contents over networks, and the convergence of computer, communication and consumer electronics are growing at a fast pace. This has also brought about considerable business opportunities for developing new generations of wireless and multimedia consumer electronic devices, applications and services.

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Introduction

ASTRI is developing key technologies and building the necessary partnerships and strategic alliances with local, Mainland and overseas high-tech companies with a goal to obtain significant intellectual property and technology assets to position Hong Kong and the Pearl River Delta as a leading innovation and design centre for the next generation of digital consumer electronics and applications.

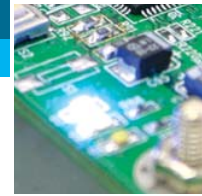
The mission of the Enterprise & Consumer Electronics (ECE) Group is to create and expand Hong Kong's core intellectual property for multimedia over IP technology, and to establish networked consumer electronics and applications. These dedicated efforts will no doubt enhance the competitiveness of local industries, help them move up the value chain, and capture future jobs and business growth opportunities presented by the newly emerging worldwide wireless and multimedia consumer market.

ECE has three major on-going technology programmes: Digital Home Technology, Mobile Multimedia Communications Technology, and Multimedia Technology IP. Each technology programme offers a suite of licensable products and platforms. ECE has also established a Digital Living Platform, which hosts the Digital Living Lab and supports the Digital Living Consortium with active participation from industry.

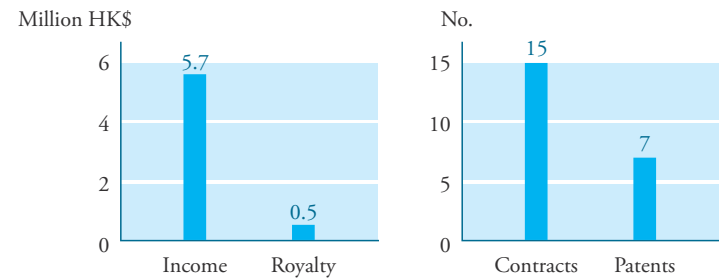


MMCT team members preparing the system environment for feature and performance testing of the WiFi enabled portable devices

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Developments



A number of ECE products have been licensed and are available in different markets. They include:

- Network Home Media Centre in Taiwan;
- Sina-mall real-time peer broadcasting installed at seven major shopping malls in Hong Kong;
- WiFi phone produced in Hong Kong;
- WiFi phone licensing to a major operator in Korea;
- ISIP phone produced for U.K. market; and
- iDNS technology in product deployment.

In addition, the following innovations were on trial during the year in different locations:

DVB-T + IP Dual Mode STB/HMC

The licensee conducted successful integration with major studio certified DRM for VOD/content distribution field trials in Australia.

Mobile TV (T-DMB) PMP

Successful field trials were conducted in Guangdong Province.

DVB-T Mobile TV Receiver

Successful trials for receiving DVB-T broadcasts were conducted at the CeBit show in Germany

UPnP AV SDK

In September 2007, UPnP AV SDK, developed by ECE, obtained UPnP™ Implementer Corporation's AV 1.0 and AV 2.0 certifications. ASTRI is the first among all UPnP members to achieve UPnP AV 2.0 certification.

Emulation Boards for High Definition (HD) Video Decoder

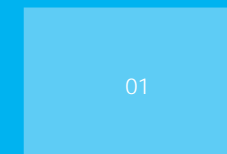
In the same year, ECE also delivered the Emulation boards for High Definition (HD) Video Decoder to a major Mainland customer.

High Definition, High Profile H.264 Video Decoder

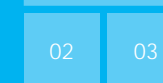
ECE's high definition, high profile H.264 Video Decoder FPGA was demonstrated with real time performance.

Chinese AVS Compression Standards

ECE also made technical contributions to the Chinese AVS Compression Standards with one IP accepted into its IP pool.



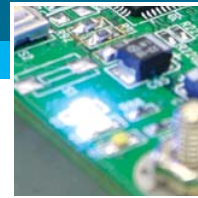
01 DHT team members conducting product tests against High Definition STB and iShare P2P platform



02 Connection between the debugging board and main board of portable dual mode multimedia development platform

03 Portable T-DMB Receiver

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Achievements

In 2007, the Digital Living Consortium was launched with six founding members and three alliance partners to promote digital living in Hong Kong through a series of technology forums and publishing reports on technology trends. In the ensuing months, the Consortium organized a number of events.

In another strategic move, the Digital Living Lab was set up. It is Hong Kong's only DLNA interoperability testing facility where extensive DLNA and UIC certified AV products are available for interoperability testing.

During the past year, ECE has also established several partnerships with industry. Joint labs were set up with research institutes of Fudan and Tsinghua Universities. Active collaborations were also maintained with standard bodies and industrial alliances on the Mainland, including MII CVIA(信產部彩電聯盟) and IGRS(閃聯).

In 2007, ECE signed a marketing agreement with Boingo Wireless, which is the main provider of hotspot worldwide.

ASTRI has adopted the Boingo® Wi-Fi Embedded Toolkit for use in its Wi-Fi phone reference design. The Wi-Fi toolkit makes ASTRI's Wi-Fi phone capable of roaming at tens of thousands of commercial hot spots around the world.

ASTRI has developed the W-iSIP, a turnkey Wi-Fi phone reference design that leverages Linux for cost-effectiveness and ASTRI's own VoIP protocol software for high performance and robust SIP features. The W-iSIP comes with a complete software development kit (SDK) for customizing a wide range of voice quality and functionality features. Boingo and ASTRI are working together to develop and field test the Wi-Fi toolkit's integration into the W-iSIP phone in both Hong Kong and North America.

An ECE licensed customer, Mobilesoft was awarded the 2007 IBM/Microsoft Home Media Centre Product Consensus Award.

Mobilesoft is an innovative communications software engineering company located in Australia. It identifies, and rapidly brings to market, network appliances that deliver diverse digital data streams, such as video, voice over internet protocol (VoIP) and data.

Project Highlights

	Project Name	Description	Date
1	Portable Dual Mode Wireless & Broadcast Multimedia Platform	This project aims at developing a multi-standard mobile digital TV platform enabling reception and viewing of mobile TV programmes on the wireless network. Mobile TV has been identified as the most appropriate and profitable means of delivering high bandwidth usage multimedia contents because of its broadcasting nature. Combined with mobile or Wi-Fi support, the platform provides a return path enabling interactive services.	Nov 06 ~ Aug 08
2	High Definition TV Technologies Applied Research Platform	ECE is collaborating with three local universities to develop IP/algorithms for the HD/digital TV applications for the multimedia SoC market.	Nov 06 ~ Nov 08
3	Digital Living Platform (DLPC)	This project aims at developing production-quality, standard compliant and certified embedded networking software components and platform technologies to enable ubiquitous enjoyment of multimedia content and services over IP inside or outside a digital home.	Apr 07 ~ Apr 08
4	Dual Mode Enabling Technology (DUET) for Convergent Networks	DUET enables transition of real-time communication between mobile and wireless LAN networks. The transition is imperceptible, so the user gets to enjoy the consistent mobile experience regardless of the type of wireless connectivity. The technology was implemented on an ASTRI dual mode (GSM+WiFi) communication hardware platform to demonstrate the viability of this technology on other dual mode mobile devices.	May 06 ~ Oct 07
5	Client-based Wireless Hotspot Access Technology (CHAT)	CHAT developed a pluggable WiFi access framework and a multi-layer power management mechanism, which enable handheld devices to access multiple WiFi hotspots with optimum power consumption. We also developed a robust WiFi enabled handheld hardware platform.	Aug 07 ~ Aug 08
6	AVS FPGA Video/Audio Decoder on Emulation Platform (MMP-AVS)	The AVS X-Profile Video/ Audio decoder aims at developing FPGA proven IPs supporting AVS decoder video applications.	Oct 07 ~ Dec 08

Project Highlights

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7	iShare Media Sharing Platform	This is a media sharing platform which enables and facilitates media content sharing, distribution, and management among various devices and across the network (e.g. private IP network or public Internet). It will leverage the one-to-one streaming function developed in the HMC project and expand it to many-to-many media distribution. The iShare Managed P2P Platform combines the power of P2P content distribution with the unique advantages of system coordination and distribution to provide an efficient viewing platform for the users. It can be embedded into any consumer electronic devices or use as software on PCs for distributing media content over IP network.	Dec 07 ~ Dec 08
8	Interactive TV Technologies Platform	This project aims at expanding the research conducted under an earlier seed project, which involves the development of scalable media delivery over Internet technology to support on-demand application with trick mode.	Jan 08 ~ Sep 09