

For rapidly developing devices capable of handling multiple wireless communications, Interviewing Insight SiP CEO

∴ Network / Communication

(by Shinko Maekawa March 24th, 2011)

We would like to extend our heartfelt condolences to those who have been incurred the serious damage on you and your relatives by the Tohoku Kanto Earthquake.

‘ With having wireless connectivity, various devices will evolve further. We aim at helping product developpers not only in an electronics industry but also in various other industries.’ says Mr. Michel Beghin, CEO, Insight SiP, specializing in the business of designing wireless modules and SiP(system in Package). (InsightSiP home page : (<http://www.insightsip.com/>))

Portable devices such as cellular phones, smart phones and tablet computers have already adapted widely available communication technologies. Furthermore, even consumer products like wrist watches, shoes and healthcare equipment have recently begun to adopt wireless features. Wireless features will be equipped by products in the very near future that you would never have thought of.

InsightSiP claim that utilizing wireless module/SiP could be very effective from the viewpoint of enabling easy device assembly and rapid product development. The company have developped unique strengthes in

designing a small antenna that can be embedded in substrates and in miniaturizing modules/SiP. (another related article : <http://eetimes.jp/news/4496>). Today, EETimes interviews Mr. Beghin and its CTO, Mr. Chris Barratt on the company's business strategies and focusing markets.



Picture 1. InsightSiP's CEO, Mr. Michel Beghin(left) and CTO Mr. Chris Barratt, (right)

EETimes Japan (EETJ) :

What were the reasons why you focused SiP/Module business from the inception ?

InsightSiP :

That was because we believed we would see more and more importance in module/SiP design technologies. Let us put it this way.

Once it was common practice that one system (device) is configured with one wireless communication technology. But nowadays, one system usually adopts multiple wireless communication technologies such as WiFi, Bluetooth, GPS and FM so forth. As the market demands more of connectivities in a device, there is no doubt that the 'multiple system' will become a key word for designing a device.

We understand that when a device with multiple wireless communications is developed, integrating necessary semiconductors and electronic components onto a SiP/module can enable the device to easily have wireless features and the development can go easily and rapidly.

Semiconductors that are adopted for a SiP/module are those that correspond to a specific wireless communication technology, for example, WiFi, Bluetooth and WHDI and thereby the module can handle multiple communication systems.

The difficulties in designing such a combo module are to correctly operate multiple wireless communication technologies in a constrained space of a module. To say nothing of developing a small SiP/module, suppressing interference between multiple wireless communication systems and maintaining good data transmission efficiency can be very difficult. Our strength resides in this type of design. We have already developed a WiFi and Bluetooth combo module and plan to design a 3G and LTE combo module for cellular phones in the near future.

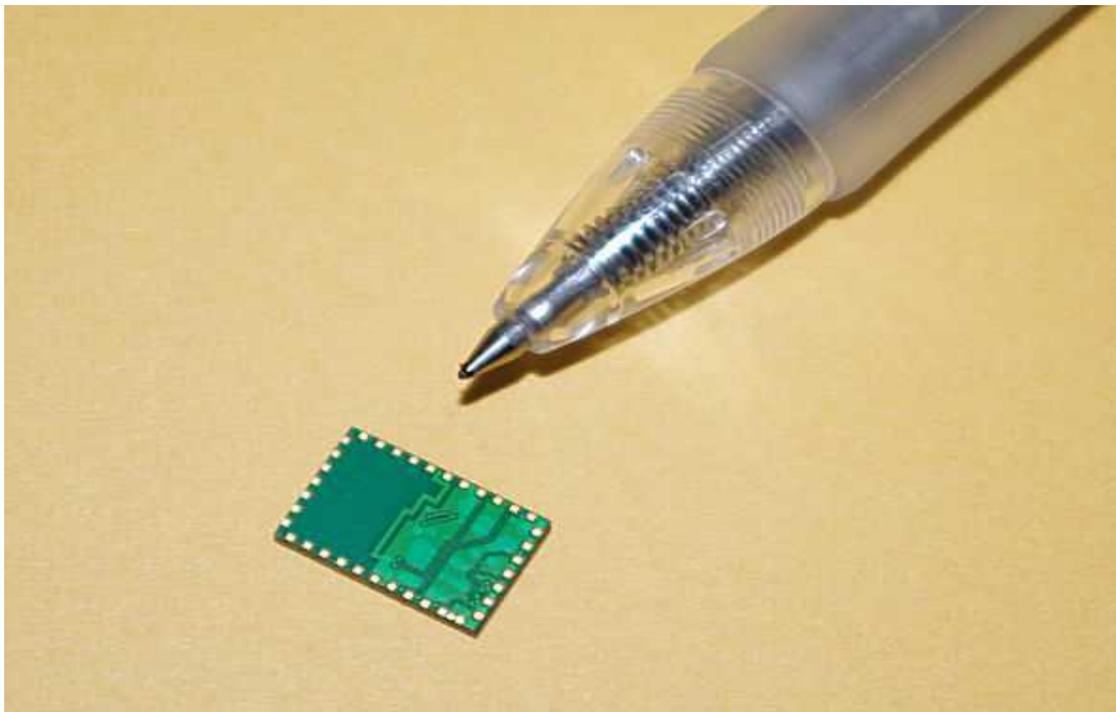
EETJ :

We have seen some device developments without using a SiP/module. We would like to confirm what using SiP/modules means.

InsightSiP :

We would like to emphasize that InsightSiP is well positioned to fulfill gaps between chip vendors and assembly makers (or equipment makers) that complete end products using semiconductor chips.

Needless to say, chip vendors supply semiconductors and electronic components, and assembly makers or equipment makers want to facilitate implementing wireless functions into devices and to develop devices rapidly. Let's take PCs for an example. They pack themselves an enormous amount of semiconductors and electronic components. The more complexity PCs get, the more demand of integrating semiconductors and electronic parts and therefore of the use of a module/SiP having abundant functions they would see.



Picture 2 Wireless module compliant to Bluetooth Low Energy standard. 8mm x 12mm x 1.4mm sized module implementing a wireless chip, antenna and matching circuit. Nordic semiconductor's « nRF8001 » has been adopted for processing communications.

EETJ :

Combo chips that integrate multiple wireless circuits such as WiFi, Bluetooth, GPS and FM onto a chip have been already introduced. Why don't you think those combo chips would be better to use than SiP/modules from the size and cost stand point ?

InsightSiP :

When it comes to integration of multiple functions, both combo chips and a SiP/module approach we have taken are headed in the same direction.

However, you need to consider the market requirement changes very quickly. Designing a highly integrated combochip can be no picnic. It would usually take a few years between the time a design is launched to when it goes into the volume production. The market situation might change tremendously in the few years.

To meet a brand-new wireless communication technology like IEEE802.11n and WHDI, a single wireless chip usually comes to the market earlier than a combo chip. If you use a SiP/module which adopts a new wireless chip to handle a new communication system you would take advantage of the newly introduced wireless communication system off hand.

Integration on semiconductors advances of course but about the time a new combo chip gets available, a new technology can be introduced. The SiP/module approach would be suitable to design endproducts adopting a new technology and to realize speedy manufacturing.

For that matter, you have to consider that combo chips require external components. Integrating high powered RF, digital and analogue circuits into a

single chip can be a tough mission. Current combo chips usually integrate a base band processor chip and part of RF frontend but they also require a power amplifier and antenna as external components. Our SiP/module can combine an antenna, power amplifier and matching componets altogether and it can avoid hassles of designing external circuits.

EETJ :

Could you tell us about the markets you are currently looking at ?

InsightSiP :

We have been serving the mobile markets like PCs, smartphones and games so far and now been keeping eye on emerging markets in addition to the mobile markets.

They are, for example, wristwatches, clothing, shoes and healthcare devices that might not have been associated with wireless or electronic functions. From now on, even those companies that have not been capable enough of designing wireless and electronic circuits would aggesively start to develop thier products by adopting modules with an antenna being able to handle multiple functions, away from beginning the development with chips.



Picture 3 The transmission module compatible with High speed wireless communication standard « WHDI(Wireless Home Digital Interface) ». It shows the bottom side of the PC. Mr. Chris Barratt, CTO, hand made. The transmitter module is compliant to « Display-Mini Card » defined by « PCI-SIG(PCI Special Interest Group) ». The size is 44.4mm x 26.8mm x 5mm. The WHDI antenna is placed on the display of the PC. The credit card sized receiving module is said to be now coming to the final testing phase and be available in April end of 2011.

EETJ :

Could you tell us about your future product plans ?

InsightSiP :

We have offered two modules based on Bluetooth Low Energy and WHDI specifications as our own products besides our design service for customers. (Picture 2 and 3). The future development plans are still confidential but we will carry out them in two directions.

First, we will be introducing a SiP/module that adapts low power consumed wireless standards. We are also studying not only a low power consumption technology but « Zero Energy Device » which uses an energy harvester. We expect the module for energy harvesters and sensors that combine wireless circuits to be huge demands.

The other direction will be the area for wireless highvision video transmission. We have already served this area by offering the WHDI module that enables high vision quality video to be transmitted without compression in low latency but we don't cling to the WHDI standard.

関連記事

1. InsightSiP that designs wireless modules, featuring own small antenna (<http://eetimes.jp/news/4496>)

(End of the translation)