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By David Manners 22nd April 2016

## UWB rides again in Insight-SIP module

UWB rides again with an interesting application in time-of-flight measurement enabled by the Sofia-Antipolis RF packaging specialist, Insight-SIP, which is celebrating its 10th birthday today with a party for 100 people in the South of France.



UWB is a relatively new departure for Insight-SIP which has based most of its product portfolio on Bluetooth LE using a Nordic Semiconductor chip-set.

Insight-SIP's sights are now set on expanding the product line beyond BLE and UWB into emerging wireless technologies such as LTE-M and LORA helped by participation in a Gemalto-led CATRENE EU R&D consortium.

"We're looking at new evolutions in wireless to see if we can build a module around them," says Insight-SIP Chairman Nick Wood.

Currently, most of Insight-SIP's business is in custom packages for blue-chip customers such as Gemalto, Qualcomm and Renesas. "We had a customer who wanted us to put a Linux computer in an SD card," says Wood, "we aim to provide the smallest solution of a given product type on any given day for any given technology."

However the fastest-growing part of Insight-SIP's business is its standard product operation selling its own products initially based on BLE. This year it is launching three new products – two BLE based products, and the new UWB product line.

The UWB SIP has some interesting applications in keyless entry. Apparently keyless entry is being abused by 'relay attacks' – when you walk away from your car one villain follows you with a tracker which picks up the signal from your car key and relays it to another hijacker standing by your car who uses it to unlock the car.

Foiling this kind of relay attack is an Insight-SIP module in an application for Irish GPS specialist DecaWave which uses time-of-flight measurement to measure the distance between you and your car and will signal if you are not nearby. “The car manufacturers are looking at it,” says Wood.

UWB is, of course, widely seen as a failed technology. “It failed in the past because no one agreed on the standards and no one really had a good use case for it,” says Wood, “and although initially it was much faster than WiFi, WiFi started catching up. So it never really took off.

“UWB used to be seen as useful for high speed data transfer over short distances,” adds Wood, “precise distant measurement is a new application for UWB – sending a pulse and measuring distance by time-of-flight.”

The Insight-SIP modules are assembled in Taiwan. “We provide standard modules so designers don’t have to worry about the RF,” says Wood.

Custom packages from Insight-SIP cost between \$60-200,000 though a semi-customised module can be had for around \$10,000.

Insight-SIP is majority owned by the management having attracted some angel investment and backing from regional business development funds.