

## Socionext, Techsor and ZifiSense Unveil IC for “ZETag<sup>®</sup>”, a New Cloud Tag to Utilize ZETA Communication

New IC supports next-generation “Advanced M-FSK” modulation method and achieves industry-leading performance in LPWA communication

**Langen/Germany, 22. October, 2021** --- Socionext Inc., ZifiSense and Techsor announced today that the companies have jointly developed a new IC "SC1330", designed for ZETag, a next generation Cloud Tag that utilizes ZETA communication protocol. The SC1330 incorporates signal processing unit which supports “Advanced M-FSK” modulation method, next-generation ZETA standard, and digital circuits including RISC-V CPU and various interfaces, all into a single chip to achieve small size, high functionality, performance and quality. Socionext plans to start volume production of the SC1330 in 2022.

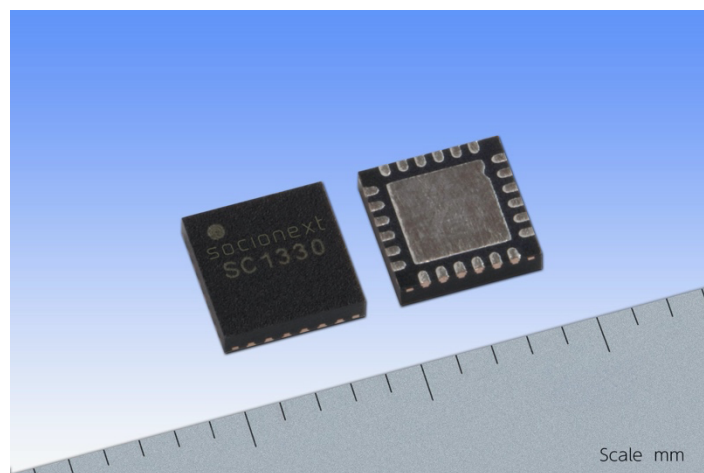


Photo: SC1330

[\(view larger image\)](#)

The Advanced M-FSK modulation is a new communication standard developed by ZifiSense. With its enhanced error tolerance and high radio wave utilization efficiency, it can achieve a communication speed (bps) three times faster than typical LPWA methods at the same sensitivity. At the same communication speed (bps), the sensitivity (dBm) improves up to 5.3dB. It allows communication over a distance of 3km to 5km from an object moving at 120km/h. “ZETag” is a new "Cloud Tag" that utilizes this feature for applications that cannot be handled by conventional active RFID tags. One possibility application is to attach the tags to parcel loaded on a transport vehicle and track the parcel by communicating with access points installed at highway interchanges and other locations. There are great expectations that the new tags accelerate the digital transformation (DX) of logistics.

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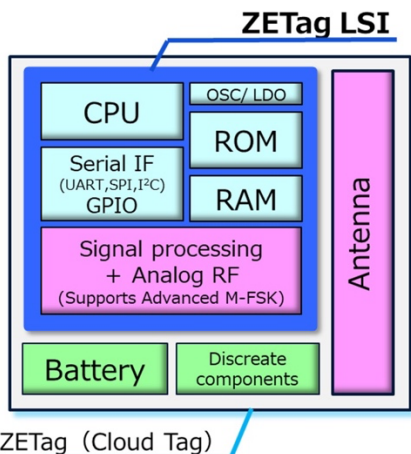
The SC1330 has been developed for this new ZETag and achieved highest level of performance in LPWA communications. The sensitivity is improved by up to 5.3dB at the same transmission rate, when compared with typical LPWA products provided by other companies. With the expertise on RF signal processing and SoC design technology that Socionext has accumulated over the years, the CPU, various external interface functions and signal processing units have been integrated into a single chip solution fitting in a 4mm x 4mm package. The new IC will not only help to reduce the size and number of components needed for tag products but will also contribute to improve the quality and reliability.

Socionext plans to start volume production of the SC1330 in 2022. ZifiSense will start to ship ZETag products using SC1330 in the same year.

ZifiSense is working with ZETA ecosystem partners China Tower Corporation and China Transport Telecommunications & Information Center to build a ZETA network infrastructure across China to enable active traceability of parcel. ZifiSense is already providing mail tracing services for China Post Group Corporation throughout Guangxi Province. SC1330 will play an important role to a large logistics network across all China.

In Japan, Techsor is leading the demonstration experiment of ZETag in collaboration with the Alliance members.

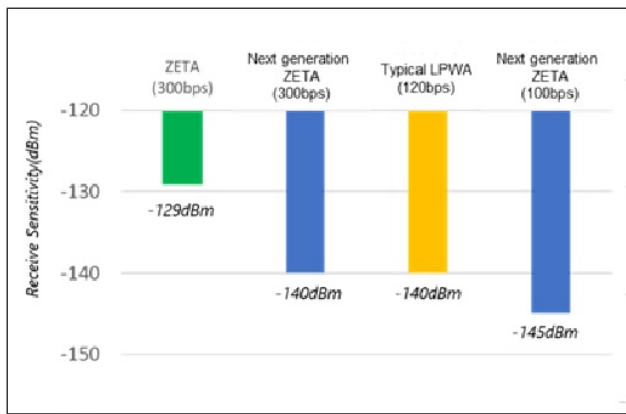
Socionext will continue to develop ZETA ICs and is now working on the next IC generation which supports two-way communication.



Item	Description
Frequency	400-950MHz
Channel width	2 KHz
Modulation	2-8 GFSK 100bps-250Kbps
Supply Voltage	1.8~3.6 V
CPU	32bit RISC
I/F	UART/SPI/I2C

Configuration of ZETag with SC1330  
[\(view larger image\)](#)

SC1330 Specifications  
[\(view larger image\)](#)



Sensitivity of Advanced M-FSK,  
 compared with other ZETA method  
 ([view larger image](#))

### About Socionext

Socionext is a global, innovative enterprise that designs, develops and delivers System-on-Chip solutions to customers worldwide. The company is focused on technologies that drive today’s leading-edge applications in consumer, automotive and industrial markets. Socionext combines world-class expertise, experience, and an extensive IP portfolio to provide exceptional solutions and ensure a better quality of experience for customers. Founded in 2015, Socionext Inc. is headquartered in Yokohama, and has offices in Japan, Asia, United States and Europe to lead its product development and sales activities. For more information, visit [www.socionext.com](http://www.socionext.com).

### About ZFiSense

ZiFiSense is an industry-leading provider of low-power IoT solutions and was established in 2013 in Cambridge, England. ZiFiSense has proposed an LPWA communication standard ZETA, and is utilizing the technology targeting at areas including smart buildings, logistics and factories.

### About Techsor

Techsor is a venture company founded in October 2016 and is a representative distributor of ZETA technology and relevant products in Japan. The company established ZETA Alliance with IT ACCESS, Toppan Printing, and QTnet in June 2018. The alliance today consists of 300 companies globally and is jointly promoting the deployment and utilization of ZETA.

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