

UltraSoC and Agile Analog Collaborate to Detect Physical Cyber Attacks

Agile Analog sensors complement UltraSoC hardware-based cybersecurity ecosystem

Cambridge, UK, 15 April 2020:

[UltraSoC](#) and [Agile Analog](#) today announced a collaboration that aims to deliver the industry's most comprehensive hardware-based cybersecurity infrastructure by combining UltraSoC's embedded on-chip analytics with Agile Analog's advanced on-chip analog monitoring IP. The combination will enable the detection and prevention of 'analog interference' cyber attacks that circumvent traditional security measures by tampering with underlying systems such as power supply levels or clock signals.

UltraSoC's recently-announced cybersecurity products monitor the functional behavior of digital circuitry, adding an extra layer of defense-in-depth to the security landscape, and detecting and mitigating cyber threats at hardware speed. Agile Analog offers a parallel range of "smart" monitors in the analog domain, such as voltage, temperature and timing sensors to detect side-channel attacks or anomalous behavior that could indicate a cyber attack. The combination of system-level digital monitoring and analog capabilities will enable a holistic approach to hardware-based cybersecurity.

These types of side-channel attacks, such as voltage and clock glitching, brownouts and temperature variations, can be used to gain access to a chip's internal circuitry, which makes UltraSoC's hardware based security essential in monitoring and defending against these attacks where hackers may exploit side-channel vulnerabilities to launch a brute force attack.

Gajinder Panesar, CTO at UltraSoC, commented: *"Agile Analog has some truly unique technology that's invaluable in monitoring the underlying analog behaviour of an SoC for potential signs of suspicious or unexpected activity. We believe that partnerships like this are key to enabling a holistic secure embedded cybersecurity architecture with monitoring capable of delivering from fab to field."*

Mike Hulse, CTO at Agile Analog, added: *"We share UltraSoC's vision of a holistic embedded cybersecurity ecosystem. Working together will allow us to move a step closer to that vision. Security is one of the key pain points faced by every electronics manufacturer today – particularly in industries such as automotive. The complementary nature of our technologies – UltraSoC offering system-level functional monitoring, and Agile Analog looking at underlying analog behavior – makes our products a natural fit for cybersecurity applications."*

UltraSoC embeds transaction-aware hardware monitors into the digital infrastructure of an SoC. These are interconnected via a message-based architecture, allowing the implementation of sophisticated system-wide anomaly detection and mitigation measures. The company's [Bus Sentinel](#) and [CAN Sentinel](#) hardware modules, for example, can identify and instantaneously block suspicious communications within the chip. Bus Sentinel was awarded a [Best in Show award in the security category](#) at the recent Embedded World 2020 event. The partnership with Agile Analog will integrate data from analog monitors (such as clock, voltage and temperature monitors) into the UltraSoC cybersecurity infrastructure, enabling even more sophisticated anomaly detection schemes.

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About UltraSoC

UltraSoC is a pioneering developer of analytics and monitoring technology at the heart of the systems-on-chip (SoCs) that power today's electronic products. The company's embedded analytics technology allows product designers to add advanced cybersecurity, functional safety and performance tuning features; and it helps resolve critical issues such as increasing system complexity and ever-decreasing time-to-market. UltraSoC's technology is delivered as semiconductor IP and software to customers in the consumer electronics, computing and communications industries. For more information visit www.ultrasoc.com

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About Agile Analog

At Agile Analog we have brought together a team of industry veterans from the analog, IP and design automation worlds to revolutionise the way Analog IP is developed and delivered. Based in Cambridge, UK, we are growing quickly to become one of the world's leading Analog IP companies. Using our innovative core technology, we are able to design analog circuits faster, to a higher quality, and on any semiconductor process. We are widening market access to Analog IP in a way that will greatly increase our customers' opportunities to take innovative chip designs to market. As part of a dynamic industry, we are disrupting methodologies that have been unchanged for generations.

For more information visit www.agileanalog.com

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