NEWS RELEASE

Ambiq Featured in TSMC CSR Report 2019

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MORE ADVANCED, MORE CAPABLE, AND MORE ENERGY-EFFICIENT ELECTRONIC PRODUCTS

As the world's most trusted dedicated foundry service provider, TSMC is consistently first to provide next generation, leading-edge foundry technologies. The Company also offers comprehensive specialty technologies and excellent frontend and backend packaging integration capabilities. With TSMC's manufacturing technologies, customers can unleash their design innovations in a wide range of applications including smartphone, high performance computing (HPC), Internet of Things (IoT), automotive, digital consumer electronics and so on. In light of the drastic change of global climate and the evolution of energy structure and technology development, chip products with stronger performance and higher power efficiency has become significant to electric product development. TSMC rigorously drives the semiconductor process technology development with higher density and reduced power consumption, which will provide customer with the leading advantages on performance, power, and area (PPA), helping customers produce more advanced, more capable, and more energy-saving products.

One remarkable example is that Ambiq® delivered its Apollo3 Blue wireless SoC in 2019, setting a new standard in

energy efficiency for battery-powered edge devices. Leveraging both Ambiq Micro's Sub-threshold Power Optimized Technology (SPOT®) platform and TSMC's 40nm ultra low power (ULP) low operating power (low-Vdd) technology in TSMC's IoT platform, the Apollo3 Blue with turboSPOT® brings groundbreaking levels of energy efficiency for battery-powered devices by increasing the computational capabilities of the Arm® Cortex®-M4F core to 96MHz while lowering the active power consumption to less than six microamperes per megahertz (6μA/MHz). Apollo3 Blue's unprecedented energy efficiency and superb computing power make it a key enabler for true intelligence to mobile, battery powered edge devices, including IoT, hearable, wearable, and voice-activated products.

In total, TSMC deployed 272 distinct process technologies, and manufactured 10,761 products for 499 customers in 2019 to continue to bring significant contribution to the advancement of modern society.

Source: **https://www.tsmc.com/download/csr/2019-csr-report/english/pdf/e-all.pdf**