

TSMC Achieves Breakthrough in 2nm Architecture Development Project

The Taiwanese semiconductor maker has made headlines again by announcing that it has made significant progress in developing its 2nm architecture.

Taiwan Semiconductor (TSMC) has been one of the main pillars of the global semiconductor industry in recent years, with a series of impressive breakthroughs in its research and development activities. The Taiwanese semiconductor manufacturer has just put itself in the spotlight again when it announced that it has made important progress in developing 2nm architecture.

According to the latest report, TSMC's 2nm process node trial production yield has exceeded 60%, a phenomenal result for a plan that is still in its early stages. Samsung, which is also said to be developing an Exynos chipset on its second-generation 2nm process codenamed 'Ulysses', has not confirmed the production numbers, which puts TSMC in the front-runner and most likely position in the next-generation 2nm processor market.

Expected mass production in 2025

Liberty Times reports that TSMC is taking steps to address what some believe to be the company's biggest challenge with 2nm technology to date, achieving high yields for its process. Keep in mind that there's still plenty of room for improvement. The Taiwanese semiconductor giant could push that figure to 70% before customers like Apple, Qualcomm, MediaTek, and others start placing orders for its 2nm process.

Fortunately for TSMC, there is still plenty of time to start mass production as the report states that once the testing is over, the company expects to start actual production around 2025. The exact timeline has not been mentioned yet, but it is said that the demand for 2nm wafers is higher than TSMC's 3nm wafers, implying that the market will see a strong wave of growth in the coming years.



TSMC is planning to build not one but two 2nm fabs. With both facilities up and running, the company could reach a monthly production capacity of 40,000 wafers. As for which customer will be the first to receive the first batch of 2nm, Apple CEO Jeff Williams visited the area earlier this year. Rumor has it that the executive wanted to make sure that the Cupertino giant would be the first to receive the said batch.

Given the good relationship between Apple and TSMC, it's likely that the iPhone maker's request will be granted, but that doesn't mean the iPhone 17 will be the first smartphone to feature a 2nm SoC. Analyst Ming-Chi Kuo has previously said that Apple isn't expected to unveil its first advanced A-series silicon until 2026, when the iPhone 18 series is expected to launch.

2nm technology will be an extremely important step for the semiconductor industry to move closer to Moore's Law.

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