

Earthquake in Taiwan



OBJECTIVE ANALYSIS SEMICONDUCTOR MARKET RESEARCH

Little Information on Fab Impact

On February 6 Taiwan suffered a 6.4 magnitude earthquake in the Maolin District in the mountains above the city of Kaohsiung, towards the south center of the island. Although a number of buildings collapsed, only 11 people were reported to have died although perhaps as many remain missing.

Taiwan's National Fire Agency is reported to have estimated that 900,000 homes in the nearby city of Tainan were without power and 400,000 had lost water. Tainan's population is about 1.9 million.

Wafer Fabrication in the Area

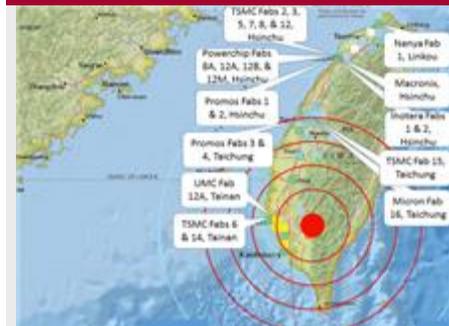
The image on the left, an overlay on a map from the [US Geological Survey's Earthquake website](#), illustrates the wafer fabrication plants that [Objective Analysis](#) is aware of in Taiwan. [Click here](#) for a larger rendition. Those closest to the epicenter are UMC's Fab 12A, and TSMC's Fabs 6 and 14, all in Tainan, about 50km from the epicenter. All of the other fabs shown are 150km away or more.

Status Updates Lacking

Of all the companies in the map, we have only received updates from TSMC, Macronix, and Micron. TSMC has stated that the earthquake: "did not cause any serious personnel injuries nor any structural or facility damage to the Company's Fab 14 and Fab 6 manufacturing sites in the Tainan Science Park. The earthquake also did not cause equipment to shift position." The company added that: "Damage to wafers in progress remains under assessment, but TSMC's initial estimate is that more than 95 percent of the tools can be fully restored to normal in two to three days. The company ... does not expect the earthquake to affect first quarter 2016 wafer shipment by more than 1 percent."

Macronix shared with us a letter sent to its customers that reads, in part: "Macronix has not seen any impact on our production and shipment." The company, whose three fabs are all in Hsinchu over 200km from the earthquake's epicenter, also said that it will be evaluating its supply chain to determine whether any of its suppliers will be impacted by the earthquake.

Micron's statement was simple: "There are no issues – we didn't issue a statement since the earthquake wasn't close to our operations and the fab didn't shut down." The situation is probably similar for the other manufacturers on the north end of the island.



UMC told the [Taipei Times](#) that its Tainan plant suffered a brief shutdown and has returned to normal operation. There are no updates on the UMC website, and Objective Analysis has not received a response to our request for information.

The Taipei Times article also explains that the power and water outages have not had an impact on either TSMC or UMC.

Overall Outlook

The impact of this earthquake appears to be relatively minor, given that most of Taiwan's semiconductor manufacturing is located on the opposite end of the island, in the north.

Something that may have had an important impact on today's outcome is that the island suffered a massive 7.3 magnitude earthquake in 1999, which caused semiconductor manufacturers and builders to focus a lot of attention on constructing facilities that could withstand another earthquake of a similar magnitude. Each full point on this scale represents a tenfold increase in intensity, so Saturday's 6.4 magnitude earthquake was only about one tenth as powerful as the 1999 event.

As Objective Analysis learns more from the companies in the area we will update our clients so that they can plan around any potential shortages.

Objective Analysis provides information to our clients on market status and company actions in the DRAM and NAND flash markets, SSDs and flash arrays, microcontrollers, and other semiconductor markets. Find out more by visiting our [website](#).

Jim Handy

OBJECTIVE ANALYSIS

Semiconductor Market Research

www.Objective-Analysis.com

TheSSDguy.com

TheMemoryGuy.com

PO Box 440

Los Gatos, CA 95031-0440

USA

+1 (408) 356-2549