Engineers from the Georgia Institute of Technology and South Korean scientists have created a microchip that reads brain activity and allows devices to be controlled by thought—without requiring brain implantation.

It is so small that it fits between hairs on the scalp. The sensor is designed as a tiny cross with microscopic spikes that slightly penetrate the skin during installation.

Brain signals are transmitted via a thin, flexible wire to a microprocessor, which then sends the data wirelessly to a smartphone, computer, or other device.

During testing, participants were able to launch applications and control display-glasses interfaces using their thoughts. The system’s accuracy was measured at 96.4%, and its attachment reliability lasted up to 12 hours without displacement.

This innovation could be a true breakthrough for people with disabilities. Unlike bulky BCI devices of the past, this microchip does not require surgical intervention and can be easily scaled for mass production.

In the future, the technology could revolutionize human interaction with devices—simply through the power of thought.