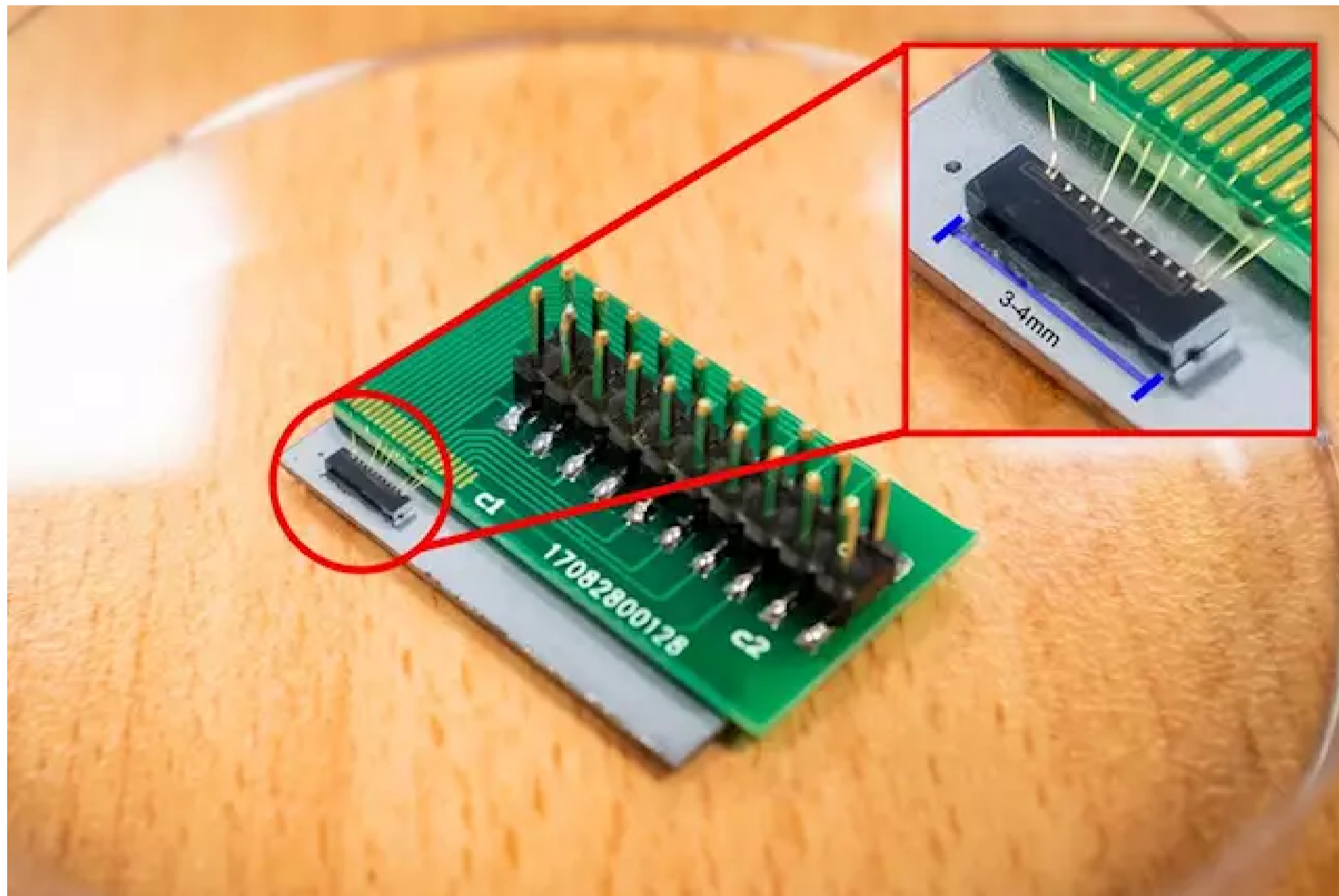


New quantum chip a thousand times smaller but just as safe

Posted on 10/31/2019 2:50:33 PM [CET](#)



New quantum chip a thousand times smaller but equally safe - NTU SINGAPORE

MADRID, Oct. 31 (EUROPE PRESS) -

A quantum communication chip 1,000 times smaller than current configurations, but with the same superior security quantum technology known, has been **developed in Sincapur**.

Most of the main security standards used in secure communication methods, from withdrawing cash from the ATM to buying goods online on the smartphone, do not take advantage of quantum technology. **The electronic transmission of the personal identification number (PIN) or password can be intercepted**, which represents a security risk.

With an approximate size of three millimeters, the small new chip uses quantum communication algorithms to provide improved security compared to existing standards. It does so by integrating passwords into the information that is delivered, forming a secure quantum key. After receiving the information, it is destroyed along with the key, **which makes it an extremely secure form of communication**.

It also needs 1,000 times less space than the current quantum communication settings that can be as large as a refrigerator or even take up the space of an entire room or the office floor. This opens doors for safer communication technologies that can be implemented in compact devices such as smartphones, tablets and smart watches. **It also sets the stage for better encryption methods for online transactions and electronic communication**.

Led by Nanyang Technological University professor Liu Ai Qun and associate professor Kwek Leong Chuan, the team's findings have been published in [Nature Photonics](#).