

iPhone's concealed fingerprint scanner

Apple is likely to include an ultrasonic fingerprint scanner hidden behind the screen of an upcoming iPhone, according to industry leaks

Screen: Must be OLED display for scanner to function

Digit: Can be wet or greasy and sensor will still work



Ultrasonic scanner:

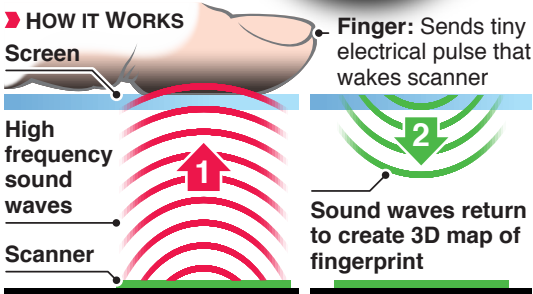
Panel, attached to underside of display, would be in addition to **Face ID** camera system

▶ HOW IT WORKS

Screen

High frequency sound waves

Scanner



Finger: Sends tiny electrical pulse that wakes scanner

Sound waves return to create 3D map of fingerprint

Qualcomm 3D Sonic Max: Latest ultrasonic sensor (17 times larger scan area than last generation), capable of scanning two digits at once for added security

New scan area:
30mm x 20mm

Previous generation:
9mm x 4mm*

Had rocky debut in Samsung **Galaxy S10** and **Note10** after screen protectors caused it to fail

Eventual goal is under-display scanner that fills entire display

Ultrasonic scanners are more reliable and occupy less space than optical fingerprint sensors