

# trinamiX

A brand of  
BASF – We create chemistry

A new gold standard for biometric authentication

## trinamiX Face Authentication behind OLED



### Product-ready

Sensing solution and OLED display integrable into smartphone within 6 to 9 months



### Ultra-compact

Minimal space requirement thanks to compact sensing module design



### Cost-competitive

Semi-transparent OLED at price level of established panels enables a cost-competitive sensing solution

### Privacy

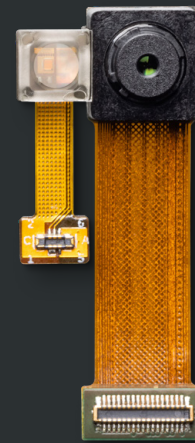
The protection of sensitive data is our top priority: All user data collected during face authentication is encrypted and protected by Qualcomm® Trusted Execution Environment. It is only stored locally on the device without any cloud computing involved.



**Find out more**  
about trinamiX  
Face Authentication

We combine 2D image with unique skin detection

## trinamiX Face Authentication Reference Design RS 12



### Software

<b>Operating system</b>	Android
<b>Secure Environment (TrustZone)</b>	Qualcomm's QTEE with Trusted App (TA) and Secure Processing Unit (SPU)
<b>FAR @ FRR <sup>1</sup></b>	1 : 1,000,000 @ 1 %
<b>Spoof Acceptance Rate (SAR) <sup>2</sup></b>	0 %; fulfills requirements for Android Biometric „class 3“, and mobile payment

### Hardware

<b>Camera module</b>	1.5 MP Global Shutter CMOS Camera
<b>Integrated dot &amp; flood projector</b>	2 x 940 nm VCSEL (Laser Class 1) incl. metaoptics
<b>Dimensions (X x Y x Z)</b>	13 x 8 x 4.4 mm
<b>Interface</b>	MIPI + GPIO

### Key Operating Figures

<b>Working range</b>	0.2 m – 0.6 m
<b>Outdoor performance</b>	Up to 100 k LUX
<b>Field of view</b>	65 x 55 (H x V)
<b>Unlock duration</b>	< 250 ms
<b>Unlock power consumption</b>	< 1.4 W
<b>Operating temperature</b>	From 0 °C to 60 °C
<b>Baseline</b>	6.5 mm
<b>Certification ready</b>	FIDO, Google Android Biometrics and IFAA
<b>Behind OLED operation</b>	Yes <sup>3</sup>

### Technology

The system enhances a regular 2D IR image by laser dot projection and analyzing it through our proprietary algorithms.

- Flood-illuminated IR 2D image
- Skin detection
- Meets **FIDO BioLevel 2+** standard

### About trinamiX GmbH

trinamiX develops cutting-edge solutions in the field of biometrics and mobile NIR spectroscopy, which are used in both consumer electronics and industrial designs. The company's products enable humans and machines to better capture data, with the goal of understanding the world around us. This results in improved decision-making as well as stronger biometric security.

<sup>1</sup> Face recognition performance according to NIST test scenarios.

<sup>2</sup> Certification provided by biometrics test institutes for previous generation. Must be re-certified in customer product.

<sup>3</sup> System geometry and projector power will be adapted to match the display of choice.

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