Intel RealSense 3D Camera & STMicroelectronics IR Laser Projector

Innovative 3D camera for facial analysis and hand/finger tracking, based on resonant micro-mirror, IR laser, visible and near infrared image sensors.

Intel RealSense is an intelligent 3D camera equipped with a system of three components: a conventional camera, a near infrared image sensor and an infrared laser projector. Infrared parts are used to calculate the distance between objects, but also to separate objects on different planes. They serve for facial recognition as well as gestures tracking.

The Intel 3D camera can scan the environment from 0.2m to 1.2m. The fixed-focal length camera will support up to 1080p @30FPS capture in RGB with a 77° FOV. Its lens has a built in IR cut filter. The 640x480 pixel VGA camera has a frame rate up to 60fps with a 90° FOV, moreover its lens has an IR Band Pass filter.

The IR laser projector from STMicroelectronics integrates an infrared laser diode, low power class 1, and a resonant micro-mirror manufactured by STMicroelectronics. The projector is tiny, only 11.7mm x 8.4mm x 3.1mm and has a capability of 60fps.

STMicroelectronics has developed an intelligent design to reduce the dimension of the micro-mirror, facilitating its driving and dramatically reducing the number of manufacturing steps in order to reduce the cost.

Based on a complete teardown analysis of the RealSense 3D Camera and the STMicroelectronics IR Laser Projector, the 2 reports provide the bill-of-material (BOM) and the manufacturing cost of the 3D Camera Module as well as a complete physical analysis and manufacturing cost estimation of the IR Laser Projector.
Yvon is the laboratory manager. He has deep knowledge in chemical & physical technical analyses and has studied a wide range of technologies.

Sylvain is in charge of costing analyses for IC, Power and MEMS. He has more than 10 years of experience in the MEMS manufacturing costs analysis and has studied a wide range of technologies.

Yvon is the laboratory manager. He has deep knowledge in chemical & physical technical analyses. He previously worked for 25 years in Atmel Nantes Laboratory and performs MEMS analyses for over 8 years.

MEMS CoSim+
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