Mobileye Imaging Radar Chosen by Global Automaker for Eyes-Off Driving

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Tech breakthroughs lead to first nomination with new customer ahead of 2028 production

JERUSALEM--(BUSINESS WIRE)--May 28, 2025-- For the first time, a leading global automaker has chosen Mobileye Imaging Radar™ as a key component of its upcoming eyes-off, hands-off automated driving system in personal vehicles, following an extensive years-long evaluation of Mobileye's technology and competing systems. Starting in 2028, this new customer for Mobileye plans to use the imaging radar to deliver SAE Level 3 automated driving at highway speeds, designed to provide exceptional detection of vehicles, people and objects in conditions such as fog or rain, and at long distances, that challenge existing sensors.

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Colored dots simulate the dense data generated by Mobileye Imaging Radar™, offering higher precision than previous systems.

In development since 2018, Mobileye's 4D imaging radar was designed to provide sensor redundancy, through superior perception in challenging lighting, environmental and traffic scenarios, to complement camera-based perception at affordable costs. This is intended to enable safe and scalable autonomous driving systems, from robotaxis to consumer AVs.

"The selection of our imaging radar by this new customer validates the groundbreaking work we undertook to develop our imaging radar," said Mobileye President and CEO Prof. Amnon Shashua. "After recognizing how important this sensing modality would be to autonomous driving, we built what we believe is the industry's standard for imaging radar that can deliver the safety and accuracy self-driving systems require."

Existing automotive radars provide estimates of distance from an object, their rough direction on a horizontal plane and a relative velocity. Imaging radars add an additional dimension – height.

Built on a breakthrough architecture, the next-generation Mobileye Imaging Radar processes the entire signal digitally — end-to-end — through a Mobileye-designed radar processor. This is intended to enable unprecedented levels of accuracy, detail, and reliability in environmental perception, strengthening the positioning of Mobileye at the forefront of autonomous driving technology.

At the core of the Mobileye Imaging Radar are Mobileye-designed, radar radio-frequency integrated circuits (RFIC). These advanced components allow exceptional flexibility in signal transmission and the ability to receive and sample the entire radar signal in a wide bandwidth while keeping noise at a low level, designed to support object detection with high confidence.

Those RFICs are embedded in a unique architecture where the entire radar signal is sampled and digitally processed by a dedicated proprietary processor, with exceptionally powerful computing capability of 11 TOPS. This processor can handle more than 1,500 virtual channels at a high frame rate of 20 frames per second. The massive antenna array also delivers exceptional angular resolution below 0.5 degrees and ultra-low side-lobe levels of -40 dBc, and market-leading dynamic range of 100 dB, versus 60 dB in other automotive radars.

This is designed to enable the Mobileye Imaging Radar to detect small, distant objects, even in complex scenarios with large nearby vehicles such as trucks or buses, along with precise detection of small hazards like a tire near a guardrail at a far distance, critical for safe highway driving autonomously at speeds above 75 mph or 130 kph. The system works to detect road users -- pedestrians, motorcycles, and cyclists -- at up to 315 meters and identify potential hazards up to 230 meters away. Crucially, where traditional radar systems often fail, such as in tunnels, construction zones, and other complex, cluttered environments, Mobileye Imaging Radar excels.

The forward-facing BSR version of the radar uses its full sensing capabilities, while a smaller BSRC version for corner-mounted use has more than 300 channels.

Mobileye (Nasdaq: MBLY) leads the mobility revolution with our autonomous driving and driver-assistance technologies, harnessing world-renowned expertise in artificial intelligence, computer vision, mapping and integrated software and hardware. Since our founding in 1999, Mobileye has enabled the wide adoption of advanced driver-assistance systems that bolster driving safety, while pioneering such groundbreaking technologies as REM™ crowdsourced mapping, True Redundancy™ sensing, and Responsibility Sensitive Safety™ (RSS). These technologies drive the ADAS and AV fields towards the future of mobility – enabling self-driving vehicles and mobility solutions at scale, and powering industry-leading advanced driver-assistance systems. Through 2024, more than 200 million vehicles worldwide have been built with Mobileye's EyeQ technology inside. Since 2022, Mobileye has been listed independently from Intel (Nasdaq: INTC), which retains majority ownership. For more information, visit https://www.mobileye.com.

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