

From ADAS to Full Autonomy, the Road Ahead is Safe with Arbe

Arbe is redefining safety for next-generation vehicles with Phoenix, the world's first ultra high-resolution 4D imaging radar chipset solution.

Phoenix delivers unparalleled radar performance to enable superior decision making capabilities. Generating a detailed image, Phoenix allows for the identification and tracking of objects in range, azimuth, elevation and velocity dimensions, to long ranges while applying post-processing and SLAM.



arbe

A radar for the road ahead

Delivering Unprecedented Road Safety

With a wide field of view and long, mid and short-range detection, Phoenix tracks hundreds of objects in real time, differentiating threats from false alarms no matter their speed or lack thereof, elevation, proximity, size, or surrounding weather and lighting conditions.

Complemented with a second layer of processing and SLAM, Phoenix detects and classifies objects and localizes the vehicle.



Our Radar Chipset Solution



1° Azimuth
2° Elevation
Ultra high resolution



100° Azimuth
30° Elevation
Wide field of view



300m
Long range



30 FPS
Real time



7.5cm–60cm
High range resolution



0.1 m/s
Doppler resolution



≈0
Minimal false alarms



100s
Objects identified

From Standard to High-Risk Engagement

With wide dynamic range and unparalleled stationary object detection, Phoenix identifies, assesses, and responds to real-world driving scenarios from the common to the exceptional with real-time threat detection, reliable free-space mapping, advanced path planning, and rigorous safety functionality. From standard to high-risk engagement, the road ahead is safe with Arbe.

The Most Advanced RF Chipset

Arbe's proprietary mm wave automotive grade radar RFIC chipset includes a 24 output channel transmitter chip and 12 input channel receiver chip. Leveraging the new FDSOI CMOS process 22FDX, Arbe's chipset is designed to support TD-MIMO, has best-in-class performance for channel isolation, noise figure, and transmit power, and achieves the lowest cost-per-channel in the market.



Breakthrough in Radar Processing

Arbe's unique baseband processor integrates proprietary radar processing unit (RPU) architecture with embedded proprietary radar signal processing algorithms to process massive amounts of raw data in real-time while maintaining low silicon power consumption. Our patented RPU is capable of processing up to 48 Rx channels in combination with 48 Tx channels to generate 30 frames-per-second of full 4D image, with equivalent processing throughput of 3 Tb/sec.

About Us

A technology-first company, Arbe is powered by an elite team of semiconductor engineers, radar specialists and data scientists who bring highly specialized skills to the forefront of the automotive industry.

Arbe's Radar Chipset Solution is trusted to handle real-world driving scenario's from the common to the exceptional. Small, light, and power efficient, Arbe's Chipset Solution is modular, designed to scale from ADAS to fully autonomous vehicles.

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