
GLOSSARY OF TECHNICAL TERMS

This glossary of technical terms contains explanations of certain technical terms used in this Document. As such, these terms and their meanings may not correspond to standard industry meanings or usage of these terms.

“4D millimeter-wave imaging radar(s)”	radar(s) that use millimeter wave frequencies to detect objects in real-time, providing information from four dimensions including their range, azimuth, elevation, and velocity
“ACC”	adaptive cruise control, a driver assistance system that automatically adjusts the vehicle’s speed to maintain a safe distance from the car ahead, using sensors like radar or cameras
“ADAS”	advanced driver assistance system. ADAS is designed to assist drivers in the operation and safety of vehicles, by utilizing various sensors, cameras, and software algorithms to provide additional functionalities and enhance the driving experience
“ADDW”	advanced driver distraction warning
“ADS”	autonomous driving system. By utilizing various sensors, cameras, and advanced software algorithms, ADS aims to enable vehicles to perceive their environment, make decisions, and control their movements with limited or without human intervention
“AEB”	autonomous emergency braking, a driver assistance system that detects potential collisions and automatically applies the brakes to reduce impact or avoid accidents
“ALC”	auto lane change
“AP”	adaptive platform
“APA”	automatic parking assist, a system that helps drivers park by automatically controlling steering and, in some cases, acceleration and braking
“ASIL”	Automotive Safety Integrity Level, including A, B, C and D levels, under ISO 26262, which is an international functional safety standard for vehicle development process
“AVP”	autonomous valet parking
“BEV”	Bird’s Eye View, a deep learning algorithm methodology. This algorithm is based on cameras installed around the vehicle to detect surrounding targets
“CAGR”	compound annual growth rate

GLOSSARY OF TECHNICAL TERMS

“CAN”	controller area network
“CAN-FD”	CAN with flexible data rate
“C-NCAP”	the China New Car Assessment Program
“CPD”	child presence detection
“Delivery Cycle”	the time span from the start of development after securing a design win to the final mass production and delivery to the customer
“design win”	the selection of our technology, product, or solution by an OEM for integration into their vehicle models or development programs
“driving assistance”	including solutions enabling Level 0 to Level 2+ automation, which are defined as systems that provide drivers with environmental perception, risk warnings, and partial automated operation support while requiring continuous driver monitoring and readiness to take over
“DMS”	driver monitoring system
“DOW”	door open warning
“E-NCAP”	the European New Car Assessment Program
“Ethernet”	the traditional technology for connecting devices in a wired local area network (LAN) or wide area network
“FCTA”	front cross traffic alert assist
“FCTB”	front cross traffic braking
“FCW”	forward collision warning, a safety system that alerts drivers of an impending collision with a vehicle or obstacle ahead to prompt preventive action
“FOV”	field of view
“GPS”	global positioning system
“HBA”	high beam assist
“HFOV”	horizontal field of view
“Highway NOA”	navigate on autopilot on highways

GLOSSARY OF TECHNICAL TERMS

“HPA”	home-zone parking assist, a feature that automates parking maneuvers in pre-learned areas such as driveways or garages
“HPC”	high-performance computing unit, which integrates complex technologies such as high-performance multi-core chip, automotive operating system, complex software system, high-speed and low latency communication, functional safety, network security, and OTA, to meet the requirement of high-level driving assistance technologies
“IATF 16949” or “ISO 14001”	International Technical Specification of Automotive Industry Quality Management System, which prepared by international automotive task force (IATF) and ISO (International Organization for Standardization)
“intelligent driving solution”	including autonomous driving solution enabling Level 1 to Level 5 automation and solution enabling Level 0 automation which only have a partial capability of object and event detection and response, but unable to execute sustained vehicle motion control tasks
“ICA”	integrated cruise assist
“ICE”	internal combustion engine
“IMU”	inertial measurement unit
“IQC”	incoming quality control
“IVISTA”	Intelligent Vehicle Integration Test Area, an intelligent vehicle and smart transportation public service platform
“LCA”	lane change assist
“LDW”	lane departure warning, a system that alerts drivers when their vehicle unintentionally drifts out of its lane without signaling
“LiDAR”	a remote sensing method that uses light to measure the distance or range of objects
“LKA”	lane keeping assist, a system that helps drivers stay centered in their lane by providing gentle steering inputs when needed
“LVDS”	low-voltage differential signaling
“MCU”	microcontroller unit
“MES”	manufacturing execution system
“middleware”	software framework that acts as a bridge between the upper-layer application and the underlying hardware
“NCAP”	New Car Assessment Program

GLOSSARY OF TECHNICAL TERMS

“NEV”	new energy vehicle, comprising battery electric vehicles, plug-in hybrid electric vehicles and fuel cell vehicles
“NIR”	near infrared
“NOA”	navigate on autopilot, an advanced driver assistance system that guides the vehicle through highways, including lane changes and exits, based on a navigation route
“ODIN”	a self-developed software-hardware integrated driving assistance platform, which integrates controllers, sensors, software and algorithms, and a closed-loop data platform
“OEM(s)”	original equipment manufacturer(s)
“OS”	operating system
“OTA”	over-the-air, a method of remotely updating a vehicle’s software and firmware used in connection with driving assistance system
“OTS”	off tool sample
“PA”	pilot assist, a semi-autonomous system that combines adaptive cruise control and lane centering to assist with steering, acceleration, and braking on well-marked roads
“PCB”	printed circuit board
“PCBA”	printed circuit boards assembly, the PCB after mounting various components, such as resistors, integrated circuits and capacitors, depending on the application and desired characteristics of the board
“PPAP”	production part approval process
“RCTA”	rear cross traffic alert
“RCTB”	rear cross traffic brake
“RCW”	rear collision warning
“RGGB”	refers to a specific arrangement of color filters used in digital imaging sensors, especially in cameras
“RPA”	remote parking assist
“RTE”	A middleware component that manages the interaction between software applications and MCUs, ensuring seamless communication and execution of functions in embedded systems

GLOSSARY OF TECHNICAL TERMS

“Service API”	A set of interfaces designed for SoCs to provide standardized access to system services and resources, enabling higher-level software to interact efficiently with the underlying hardware
“SLAM”	simultaneous localization and mapping, the computational process whereby an autonomous system accurately determines its position and orientation within an unknown environment while concurrently mapping the environment’s structure
“SMT”	surface mount technology, a method in which the electrical components are mounted directly onto the surface of a printed circuit board
“SoC(s)”	system-on-chip(s), programmable integrated circuit(s) that integrates central processing unit (CPU), memory interfaces, on-chip input/output devices, input/output interfaces, and secondary storage interfaces, often alongside other components such as radio modems and a graphics processing unit, all on a single substrate or microchip
“SWIR”	short-wavelength infrared, which refers to the electromagnetic wavelength range from approximately 1.0 to 2.5 microns, situated between visible light and mid-wave infrared
“Tier 1 supplier”	a company that supplies components or systems directly to the automotive OEMs
“TJA”	traffic jam assist
“ToF”	time-of-flight
“TOPS”	tera operations per second
“type-approval”	the process applied by national authorities to certify that a model of a vehicle meets all EU safety, environmental and conformity of production requirements before authorizing it to be placed on the EU market
“Urban NOA”	navigate on autopilot in urban areas