

GLOSSARY OF TECHNICAL TERMS

The following is a glossary of certain terms used in this Document in connection with us and/or our business. As such, these terms and their meanings may not correspond to standard industry meanings or usage of these terms.

“2T2R”	a wireless transmission configuration with two transmit antennas (2T) and two receive antennas (2R);
“3DoF”	three degrees of freedom, a form of motion tracking that supports rotational movement along three axes, typically pitch, yaw and roll, without positional tracking;
“5G”	fifth generation of mobile network technology;
“AI”	artificial intelligence;
“accelerator”	a hardware component, typically a card, that enhances computing performance by transferring specific tasks from the central processing unit to specialized processors;
“ADC(s)”	analog-to-digital converter(s), which are utilized in automobile systems to transform analog signals from different sensors into digital data;
“AES”	Advanced Encryption Standard, a symmetric encryption algorithm widely used for data security;
“AI model”	an algorithm that relies on training data to recognize patterns and make predictions or decisions;
“AIoT”	artificial intelligence of things, referring to the integration of artificial intelligence technologies with Internet of Things devices to enable intelligent data processing and decision-making at the device or system level;
“algorithm”	a procedure or formula for solving a problem, based on conducting a sequence of specific actions, especially by a computer;
“AR/VR”	augmented reality and virtual reality, which respectively refer to a technology that overlays real-time 3D-rendered computer graphics onto a portion of the real world through a display and a simulated experience that employs 3D near-eye displays and pose tracking to give the user an immersive feel of a virtual world artificial intelligence generated content;

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“bandwidth”	the data transmission capacity of a communication channel over a given period of time;
“baseband”	the core signal processing component in wireless communication systems responsible for handling baseband signals;
“Bluetooth”	short-range wireless communication technology that allows devices to exchange data over radio waves;
“Boot ROM”	read-only memory that stores initial boot code used to initialize hardware and load system software during device startup;
“Bus”	refers to the internal data communication pathway that enables data transfer among functional modules;
“CAGR”	compound annual growth rate;
“Camera-to-display latency”	the time delay between the capture of visual data by a camera sensor and the display of the corresponding image on a screen;
“CE”	Conformité Européenne, a marking indicating conformity with applicable European Union regulatory requirements;
“chip(s)”	a piece of silicon that contains integrated circuits used to perform electronic functions in devices;
“CIS”	CMOS image sensor, a semiconductor device that captures images by converting light into electrical signals, widely used in smartphones, digital cameras and automobiles;
“CMOS”	complementary metal-oxide semiconductor, a technology used in the design and manufacturing of ICs;
“CNN(s)”	convolutional neural networks, a class of deep learning models commonly used for tasks such as image and video analysis by applying convolutional operations to extract hierarchical features from input data;
“Codec”	coder-decoder, a device or software that encodes or decodes digital data streams, especially for compressing and decompressing audio or video signals in processing applications;
“Confluence”	Atlassian Confluence, a collaboration and documentation platform developed by Atlassian, used to create, manage and share project documentation, technical specifications, development records and internal knowledge bases;

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“CP/FT testing”	refers to Circuit Probe testing and Final Testing, which are critical stages in the semiconductor manufacturing process. CP testing is conducted at the wafer level to verify chip functionality prior to packaging, while FT testing is performed on packaged chips to ensure compliance with performance and quality specifications before shipment;
“CPU”	central processing unit;
“CV”	computer vision, a field of artificial intelligence that enables computers and systems to derive information from images and video data;
“DDR”	Double Data Rate, a type of synchronous dynamic random-access memory (SDRAM) that transfers data on both the rising and falling edges of the clock signal, providing higher bandwidth and performance compared to single data rate memory;
“DDRC”	double data rate memory controller, a hardware module used to manage data access between a processor and DDR memory;
“Demo”	refers to demonstration software, sample applications or prototype implementations developed to showcase the functionality, performance or application scenarios of our products, technologies or algorithms;
“die(s)”	a small block of semiconducting material on which a given functional circuit is fabricated;
“DRAM”	dynamic random access memory, which refers to a type of semiconductor memory widely used in vehicles for various functions like powering displays, handling data from sensors in ADAS systems, and supporting the processing needs of self-driving technologies;
“DSP”	digital signal processor, a specialized processor designed to efficiently perform real-time digital signal processing tasks such as signal filtering, image processing and data transformation;
“DVP”	digital video port, an interface standard used for parallel digital video data transmission between image sensors and processing units;

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“ECO”	engineering change order, a formal process used to document, review and implement design modifications during product development and manufacturing;
“EDA”	electronic design automation, a category of software tools for designing electronic systems such as ICs and printed circuit boards. The tools work together in a design flow that chip designers use to design and analyze entire semiconductor chips;
“Edge AI”	technology paradigm that combines the capabilities of AI with edge computing, deploying AI algorithms and models directly on edge devices, such as IoT sensors, smartphones, industrial machines and other local computing devices;
“eFuse”	embedded fuse, a type of non-volatile memory used to store permanent configuration data such as security keys and device identifiers;
“eMMC”	embedded MultiMediaCard, a type of embedded non-volatile flash memory commonly used for data storage in electronic devices;
“Ethernet”	a family of wired networking technologies commonly used for local area networks to enable data communication between devices;
“fabless”	the design and sale of hardware devices and semiconductor chips while outsourcing their manufacturing services to a specialized manufacturer called a semiconductor foundry;
“fabrication”	the process of manufacturing or constructing products by assembling, shaping, or processing raw materials through various techniques and steps;
“FAE”	field application engineer;
“FCC”	the Federal Communications Commission of the United States, the regulatory authority responsible for regulating interstate and international communications;
“FMEA”	failure mode and effects analysis, refers to a systematic and structured quality management tool used to identify potential failure modes in product design or manufacturing processes, assess their potential effects, and implement preventive or corrective measures to mitigate associated risks;
“foundry”	a specialized factory, also known as a fabrication plant (fab), that manufactures ICs;

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“fps”	frames per second;
“FPV”	first-person view, a viewing mode in which visual content captured by a camera is transmitted in real time to a display, allowing the user to experience the perspective of the camera;
“frequency”	the rate at which a power electronic device operates;
“Gbps”	a unit of data transfer rate equal to one billion bits per second;
“general purpose”	the ability to perform a wide range of computing tasks, rather than being optimized for a specific application or workload;
“GHz”	gigahertz, a unit of frequency equal to one billion hertz;
“GIT”	a distributed version control system used to manage, track and coordinate changes to source code and related development files, enabling collaborative software development and code version management;
“glass-to-glass latency”	the end-to-end time delay measured from image capture at the camera sensor to the display of the image on a screen;
“GMAC”	gigabit media access controller, a hardware interface used to support Ethernet communication at gigabit speeds;
“GPIO”	general purpose input/output, referring to programmable digital pins on electronic components that can be configured as either inputs or outputs, allowing for flexible communication with various sensors, actuators, and other devices within a vehicle;
“GPU”	graphics processing unit, a specialized electronic circuit designed to manipulate and alter memory to accelerate the creation of images in a frame buffer intended for output to a display device;
“HD”	high definition;
“HDMI”	High-Definition Multimedia Interface, a digital interface standard used for transmitting high-definition video and audio signals;
“HDR”	high dynamic range;
“HMD”	head-mounted display, a wearable display device positioned in front of the user’s eyes to present visual content, commonly used in augmented reality and virtual reality applications;

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“I2C”	inter-integrated circuit, a serial communication protocol commonly used for short-distance communication between integrated circuits;
“image sensor”	a device that detects and conveys information used to form an image;
“integrated circuit” or “IC”	a small unit or package which is made as a single indivisible structure (such as a chip) and is electrically equivalent to a conventional circuit of many separate components;
“IP”	intellectual property;
“ISO”	the International Organization for Standardization, a worldwide federation of national standards bodies;
“ISO 9001”	a globally recognized standard for quality management. It helps organizations of all sizes and sectors to improve their performance, meet customer expectations and demonstrate their commitment to quality. Its requirements define how to establish, implement, maintain, and continually improve a quality management system (QMS);
“ISP(s)”	Image Signal Processors, specialized components in digital cameras and other imaging devices that process raw image data from the sensor into a usable, high-quality image;
“IT”	information technology, refers to the systems, infrastructure, software and related technological resources used to support our business operations, data processing, communications, information management and overall operational efficiency;
“JIRA”	Atlassian Jira Software, a project and issue tracking software developed by Atlassian, commonly used to manage tasks, bugs, development progress and workflow coordination in software development and quality assurance processes;
“KGD(s)”	known good die, which are individual semiconductor dies that have been fully tested and verified to meet specified performance and quality standards prior to packaging;
“large model”	a neural network architecture enabling it to process complex patterns and relationships across massive datasets;
“LVDS”	low-voltage differential signaling, a high-speed, low-power data transmission standard commonly used for display and data interfaces;

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“mass production”	stage at which a product is manufactured in large quantities on a regular basis, following completion of all necessary design, testing, and regulatory requirements;
“MCU”	Microcontroller Unit, a compact integrated circuit designed to perform specific control and management functions within embedded systems;
“Mbps”	megabits per second, a unit of data transfer rate representing one million bits transmitted per second;
“Megabi”	a unit of digital information equal to one million bits, commonly used to measure data size or transmission capacity;
“Megapixel”	a unit of image resolution equal to one million pixels, commonly used to describe the resolution of image sensors and visual data output;
“Mesh Networking”	a network topology in which nodes are interconnected with multiple peers and can dynamically route data through alternative paths, enhancing network resilience, coverage and fault tolerance;
“MHz”	megahertz, a unit of frequency equal to one million hertz;
“MIMO”	multiple-input multiple-output, a wireless communication technology that uses multiple transmitting and receiving antennas to improve data throughput and reliability;
“MIPI”	mobile industry processor interface, a set of industry-standard specifications for high-speed interfaces used to connect components such as image sensors and displays within electronic systems;
“modules”	packaged components that include integrated circuits or other electronic components to build larger systems or devices;
“MR”	mixed reality, a technology that combines elements of both augmented reality and virtual reality by integrating digital content with the physical environment in real time;
“ms”	millisecond, a unit of time equal to one thousandth of a second;
“Multi-spectrum ISP”	an image signal processor designed to support the processing of image data captured across multiple spectral bands, such as visible light and other non-visible spectra;

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“NLP”	Natural Language Processing, a branch of artificial intelligence that enables computers to understand, interpret and generate human language;
“nm”	nanometer, a unit of length commonly used to describe semiconductor process technology nodes;
“NPU”	neural processing unit, a specialized hardware accelerator designed to handle complex computing required for AI and machine learning;
“OFDM”	orthogonal frequency-division multiplexing, a digital modulation technique that transmits data over multiple orthogonal subcarriers to improve spectral efficiency and robustness;
“OS”	operating system, system software that manages hardware resources and provides services for application software;
“packaging”	the process of transforming bare semiconductor die (integrated circuit) into a final packaged chip product through a series of technological procedures, while providing physical protection, electrical connection and thermal management;
“patterned wafer”	a wafer with built-on circuits, which are unpackaged when sold. A patterned wafer contains a number of dies, which can be easily turned into chips after subsequent packaging and testing by downstream customers;
“PCB”	printed circuit board, a flat board made from insulating material, typically fiberglass or composite epoxy, onto which conductive pathways (traces) are etched or printed to connect and support electronic components such as chips, resistors, capacitors, and connectors;
“Point-to-Point Networking”	a network communication mode in which data is transmitted directly between two endpoints through a dedicated link, enabling stable and low-latency communication;
“Point-to-Multipoint Networking”	a network communication mode in which a single central node communicates with multiple endpoint nodes simultaneously, allowing efficient distribution of data to multiple receivers;

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“Power, Performance, and Area” or “PPA”	a set of key design metrics used in integrated circuit development to evaluate power consumption, computational performance and silicon area efficiency;
“Processing-in-Memory” or “PIM”	an emerging computing architecture that integrates data processing capabilities directly within or near memory to reduce data movement and improve computational efficiency;
“QA”	quality assurance, refers to systematic processes and procedures implemented to ensure that products, software or systems meet defined quality standards and performance requirements;
“QCC”	quality control circle, refers to a participatory quality management approach whereby small groups of employees voluntarily conduct regular activities to identify, analyze and resolve work-related quality issues, with the objective of continuously improving product quality, operational efficiency and workplace processes;
“R&D”	research and development;
“RF”	radio frequency;
“RGB”	red, green and blue, a color model in which colors are represented by varying intensities of red, green and blue light, commonly used in image sensing, processing and display systems;
“RISC-V”	an open-standard reduced instruction set computing (RISC) architecture used for designing processors and system-on-a-chip solutions;
“RSA”	Rivest-Shamir-Adleman, an asymmetric cryptographic algorithm commonly used for secure data transmission and authentication;
“SDI”	Serial Digital Interface, a professional digital video interface standard commonly used in broadcast and film production environments;
“SDK”	software development kit;
“SDRAM”	Synchronous Dynamic Random-Access Memory, a type of dynamic random-access memory that operates in synchronization with the system clock, enabling more efficient and predictable data access compared to asynchronous memory architectures;
“semiconductor”	a solid substance that has a conductivity between that of an insulator and that of most metals, either due to the addition of an impurity or because of temperature effects;

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“signal chain”	a series of signal-conditioning electronic components that receive input (data acquired from sampling either real-time phenomena or from stored data) sequentially, with the output of one portion of the chain supplying input to the next;
“SiP”	System-in-Package, a semiconductor packaging technology that integrates multiple integrated circuits, such as SoCs and memory components, into a single package to improve performance, reduce footprint and enhance system integration;
“SLAM”	simultaneous localization and mapping, a technology that enables robots or other autonomous vehicles to build a map of an unknown environment while simultaneously determining their own location within that map;
“SoC”	a System-on-a-Chip, an integrated circuit that combines most or all key components of a computer or electronic system onto a single microchip;
“sq.m.”	square meter(s);
“SRRC”	the State Radio Regulation of China, the regulatory authority responsible for radio frequency management in the PRC;
“substrate”	the base material that provides mechanical support and electrical connections between the chip and the printed circuit board;
“SWaP-optimized system architectures”	system architectures optimized for Size, Weight and Power efficiency;
“tape-out”	the final stage in the IC design process where the completed design layout is delivered to the semiconductor foundry for mask production and manufacturing;
“TDD”	time division duplex, a communication method in which uplink and downlink transmissions share the same frequency band but occur at different time intervals;
“testing”	the process of detecting the electrical performance, functional integrity, reliability, and environmental adaptability of semiconductors using professional testing equipment, so as to screen out qualified products and eliminate defective ones;
“TOPS/W”	tera operations per second per watt, a metric used to measure the energy efficiency of a processor by indicating the number of operations performed per second per unit of power consumption;

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“UART”	universal asynchronous receiver-transmitter, a hardware communication protocol used for serial data transmission;
“UAV(s)”	unmanned aerial vehicles, which are aircraft operated without a human pilot on board and may be remotely controlled or operate autonomously using onboard systems;
“wafer”	a thin and round sheet made by slicing a monocrystalline ingot obtained by growing silicon (Si), gallium arsenide (GaAs), and other materials, which is the key material used to create semiconductor integrated circuits; and
“WIP”	work-in-progress, refers to inventories that are in the process of manufacturing but have not yet reached a completed or finished goods stage.