

GLOSSARY OF TECHNICAL TERMS

This glossary contains explanations of certain terms used in this document in connection with our Company and our business. The terminology contained in this glossary and their given meanings may not correspond to standard industry meaning or usage of these terms.

“2G/3G/4G/5G”	the second generation, third generation, fourth generation, and fifth generation wireless mobile communication technologies.
“3GPP” or “Third Generation Partnership Project”	a global standards development organization that develops and maintains technical specifications for mobile telecommunications technologies, including 2G, 3G, 4G (LTE) and 5G standards, which are widely adopted by telecommunications operators and equipment manufacturers worldwide.
“5G eMBB” or “5G enhanced Mobile Broadband”	the core scenario of 5G technology focusing on high-speed, large-bandwidth and high-quality mobile broad-band communication services.
“5G eRedCap” or “5G enhanced Reduced Capacity”	the enhanced light-weight 5G standard for low-cost and low-power IoT scenarios.
“5G RedCap” or “5G Reduced Capacity”	the lightweight 5G standard for medium-speed IoT scenarios.
“AMR”	Adaptive Multi-Rate, a 3GPP-standardized speech-optimized audio codec widely used in mobile communications.
“AR” or “Augmented Reality”	A technology that merges computer-generated virtual elements into the user’s physical environment by utilizing a combination of technologies, including optoelectronic displays, sensors, interaction paradigms, and computer graphics.
“architecture”	the overall design framework and structure of a system.
“assembly/packaging”	the process of placing an integrated circuit die (chip) onto a substrate or lead frame, electrically connecting it through wire bonding or similar methods, and then sealing it with a protective casing to provide external connection interfaces.
“bandwidth”	the amount of data that can be transmitted in a fixed period of time.
“baseband”	signals in their unmodulated raw frequency range.
“BOM” or “Bill of Materials”	a structured, detailed list of all raw materials, components, and parts required to manufacture a product, along with their exact quantities.

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“Cat.1bis”	a simplified version of Long Term Evolution Category 1 (LTE Cat.1), which is a category under the LTE (4G) cellular communication standard defined by 3GPP, supporting moderate data transmission rates and voice capability, commonly used in medium-speed Internet of Things (IoT) applications.
“Cat.4”	a high-speed LTE category.
“cellular IoT”	the use of cellular mobile communication networks to provide wireless connectivity for Internet of Things (“ IoT ”) devices. These devices utilize cellular networks for data transmission, enabling widespread connectivity in various IoT applications, including smart metering, industrial sensors, and connected devices, offering benefits such as global coverage, reliability, and security.
“chip”	a microelectronic circuit that integrates a large number of tiny electronic components onto a small piece of semiconductor material, typically silicon.
“circuit design”	the process of designing electronic circuits based on specific requirements, involving the selection and connection of electronic components and their interconnections to achieve desired electronic functions.
“CP” or “chip probing”	the process of performing electrical tests on each individual chip on the wafer before packaging, in order to screen and select functional chips for further processing.
“CPE” or “customer premises equipment”	the equipment installed at the customer’s location, used to connect the user’s network to the service provider’s network, typically serving as the endpoint device.
“CPU” or “central processing unit”	the core processing unit of a computer, responsible for interpreting computer instructions and performing arithmetic, logic, control, and input/output operations.
“EDA” or “electronic design automation”	a suite of software tools used to assist in the design of integrated circuits, enabling tasks such as circuit layout, verification, and simulation to be automated for efficient and accurate chip design.
“Edge-AI” or “Edge Artificial Intelligence”	artificial intelligence (AI) processing conducted locally on the device rather than in centralized cloud servers. This architecture reduces response latency, enhances data privacy protection and lowers transmission costs.
“fabless”	companies that focus on the design and sales of semiconductor chips while outsourcing the entire manufacturing process to specialized foundries.
“flash”	an electrically erasable, programmable non-volatile memory.

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“foundry”	companies that specialize in providing wafer manufacturing services.
“IDM” or “Integrated Device Manufacturer”	a business model that integrates the design, manufacturing, testing and assembly of semiconductor chips and related components across the industrial chain.
“IIoT” or “Industrial IoT”	the integration of IoT technologies into industrial applications and environments. It involves connecting industrial machines, sensors, devices, and systems to collect and exchange data in real-time, enabling improved automation, monitoring, and predictive maintenance in sectors such as manufacturing, energy, logistics, and agriculture.
“In-vehicle T-Box”	Also known as a Telematics Control Unit (TCU), it is an intelligent terminal device installed in automobiles to enable telematics function.
“IoT” or “Internet of Things”	a network system that connects various sensors, devices, and systems via the Internet, enabling information exchange and intelligent control between devices.
“IPD” or “integrated product development”	a systematic product development methodology that emphasizes parallel collaboration across cross-functional teams to ensure a cohesive and efficient development process.
“JEDEC” or “Joint Electron Device Engineering Council”	a global organization that develops technical standards for the microelectronics industry.
“LFBGA” or “Low-profile Fine-pitch Ball Grid Array”	a type of integrated circuit packaging technology characterized by a low-profile structure and fine-pitch solder ball array on the underside of the package, enabling high-density electrical connections and efficient heat dissipation.
“LTE” or “Long Term Evolution”	a wireless broadband communication standard developed by 3GPP, used for cellular mobile devices and data terminals.
“MBB” or “Mobile Broadband”	high-speed cellular mobile broadband connectivity, typically for higher-throughput data-intensive devices such as MiFi, CPE and mobile gateways.
“MIFI” or “Mobile WiFi”	A portable broadband wireless device that integrates the functionalities of a modem, a router, and an access point.
“mMTC” or “Massive Machine-Type Communications”	a 5G application scenario defined by 3GPP that supports large-scale connectivity of low-power, low-data-rate devices, enabling simultaneous access of a massive number of machine-type communication terminals within a network.
“module”	an independent component that integrates multiple electronic components onto a small PCB (printed circuit board) and provides a specific function.
“MP3”	MPEG-1 Audio Layer 3, a data compression format for encoding digital audio, most commonly music.

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“NB IoT”	a low-power wide-area network (LPWAN) technology specifically designed for IoT devices, supporting large-scale, low-data-speed, small-data-volume, and low-power wireless communication.
“NRE” or “Non-Recurring Engineering”	one-time upfront costs incurred during the product development phase.
“NR-NTN” or “New Radio-Non-Terrestrial Network”	an important component of 5G non-terrestrial network technology, which is designed to provide direct voice and data services to user equipment via non-terrestrial platforms such as satellites.
“NTN” or “Non-Terrestrial Network”	a wireless communication network architecture that utilizes satellite or other non-terrestrial platforms to provide connectivity services, enabling communication coverage beyond traditional ground-based cellular infrastructure.
“Open-CPU” or “Open Central Processing Unit”	a chip architecture design that enables customers to run customized applications directly on the embedded central processing unit within the communication chip, allowing the chip to support both connectivity and local data processing without requiring an external processor.
“OPUS”	an open-source audio codec standard.
“OEM” or “Original Equipment Manufacturer”	a manufacturer that produces products according to the specifications of a brand owner, but does not own the product’s brand.
“OSAT” or “Outsourced Semiconductor Assembly and Test”	companies that specialize in providing assembly and testing services for semiconductor companies.
“OTA” or “Over-the-Air”	a wireless technology that enables remote delivery of firmware, software updates or configuration changes to devices through a cellular or other wireless network without requiring physical access to the device.
“PCB” or “Printed Circuit Board”	an insulating substrate used to support electronic components and provide electrical connections between them through etched copper traces.
“PM” or “power management”	a systematic set of strategies and mechanisms for power consumption control, typically achieved through the collaboration of PMIC hardware and system software.
“PMIC” or “power management integrated circuit”	a chip specifically responsible for managing, distributing, and optimizing electrical power.
“PPA”	three core metrics used to measure the quality of chip design: power consumption, performance, and core area/cost. “power” refers to energy efficiency, “performance” signifies the computational power or speed, and “area/cost” refers to the physical size of the chip, all of which are crucial for maximizing chip efficiency and minimizing costs.

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“PSRAM” or “Pseudo-Static Random Access Memory”	a type of high-density, low-power pseudo-static random access memory widely adopted in IoT and wearable devices, featuring simplified peripheral circuitry and cost-effective memory solutions for low-speed and low-power-consumption scenarios.
“QFN” or “Quad Flat No-leads”	a common surface-mount chip packaging form, where the bottom of the package has exposed pads for heat dissipation and electrical connections, and the four sides feature electrode contacts.
“RF” or “radio frequency”	a specific range of electromagnetic oscillation frequencies.
“RFFE” or “Radio Frequency Front-End”	the combination of components that manage the signals between the baseband processor and the antenna. It includes elements such as power amplifiers, low noise amplifiers, filters, and switches that are for transmitting and receiving high-quality radio frequency signals efficiently, enabling communication over cellular networks.
“RMA” or “Return Material Authorization”	a process that authorizes the return of materials or products, typically for repair, replacement, or credit, following the manufacturer’s return policy.
“RTL” or “register-transfer level”	an abstraction level used to describe the functionality of digital circuits using hardware description languages.
“sensor”	a device that can detect physical or chemical quantities and convert them into electrical signals.
“SoC” or “System on Chip”	an integrated circuit that highly integrates the main functional components of a system onto a single chip.
“SOS Beacon(s)” or “Satellite-based SOS Emergency Beacons”	communication devices designed to transmit emergency distress signals and location information via satellite networks in areas where terrestrial cellular coverage is unavailable.
“tape-out”	the critical step of delivering the final chip design data to the foundry for the first trial production run.
“testing”	the process of evaluating the functionality and performance of an integrated circuit or chip by applying various tests, including electrical testing, to ensure it meets the required specifications before it is shipped for assembly or packaging.
“VoLTE” or “Voice over Long-Term Evolution”	a high-quality voice and video calling solution based on IP transmission technology over a 4G LTE network.
“VR” or “Virtual Reality”	A computer simulation system that creates and allows users to experience a virtual world by immersing them in a computer-generated environment.
“wafer”	the basic material used in the production of integrated circuit chips.