MediaTek Genio

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Our Product Portfolio
- Semiconductors
- Passive Components
- Electromechanical Components
- Displays & Monitors
- Boards & Systems
- Storage Technologies
- Wireless Technologies

Our Initiatives
- RUTRONIK AUTOMOTIVE
- RUTRONIK EMBEDDED
- RUTRONIK POWER
- RUTRONIK SMART

Committed to excellence

Consult – Know-how. Built-in.
The Technical Competence from RUTRONIK
Worldwide and individual consulting on the spot by
competent sales staff, application engineers &
product specialists.

The Product Portfolio from RUTRONIK
Wide product range of semiconductors, passive and
electromechanical components, displays & monitors,
boards & systems, storage and wireless technologies
for optimum coverage of your needs.

The Delivery Service from RUTRONIK
Innovative and flexible solutions from supply chain
management to individual logistics systems.

Quality without Compromise from RUTRONIK
The integrated management system (IMS) encompasses
quality control, information security, environmental
protection, occupational health and safety.

Content

The MediaTek Genio chipsets offer fast multicore performance with extreme power-efficiency, optimizing the user experience for even
the most compute-intensive AI applications. The CPU, GPU, and AI Processing Unit (APU) in each Genio chipset work together to enhance
intelligent autonomous capabilities at the edge and support high-quality displays, cameras, and more. Additionally, each chipset offers
support for the latest Wi-Fi and Bluetooth protocols to deliver seamless connectivity.

Key Features

- High Performance Low Range
  - Power efficient, high performing multi-core SoCs

- Product Longevity
  - Long term support for silicon, operating systems updates and security patches

- Connectivity
  - Wi-Fi & 5G technologies enabling anywhere, anytime connectivity

- AI - Powered Advanced Multimedia
  - Dedicated APU cores & AI accelerators to make the edge intelligent

- Security
  - High secure SoCs that customers can trust

- One Platform Multiple Applications
  - Unified SDK to reduce development costs and enable faster time to market

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The MediaTek Genio chipsets offer fast multicore performance with extreme power-efficiency, optimizing the user experience for even the most compute-intensive AI applications. The CPU, GPU, and AI Processing Unit (APU) in each Genio chipset work together to enhance intelligent autonomous capabilities at the edge and support high-quality displays, cameras, and more. Additionally, each chipset offers support for the latest Wi-Fi and Bluetooth protocols to deliver seamless connectivity.

**PARTNER ECO SYSTEM**
- Partner System Software
- Partner System Hardware

**DEVELOPER RESOURCES**
- Website | Documentation | Developer Tools | Training

**OPEN PLATFORM IOT SDKS**
- Yocto Linux | Ubuntu | Android

**IOT MEDIATEK GENIO PLATFORM**

**Scalable, Standard Software**
- Standard Linux architecture & interfaces
- Upstream BSP (expect features with confidential IPs)
- Active migration to latest kernel

**Public Developer Tools**
- Software development kit (SDK)
- Evaluation kits and getting started resources
- Datasheets

**Multi-OS with Longevity Support**

**MediaTeK Genio products have 10 years longevity support**

*The actual available functions are dependent on the operating systems, please check with your MediaTek contact for details*
MediaTek’s IoT Open Linux, based on Yocto Linux, proves a secure, feature-rich platform for developing IoT applications. Our platform simplifies software and services integration and enables powerful IoT applications built for optimal performance, reliability, and security.

Features

Open and Standard
Based on standard Yocto Linux, all drivers will upstream to mainline, providing an easy to develop environment for users.

AI Accelerator
Integrated MediaTek AI Accelerator – NeuroPilot for a complete APU application in Genio series products and provide a standard TensorFlow lite interface.

Connectivity
Pre-integrated with MediaTek connectivity modules, quickly landing 5G/Wi-Fi 6/Wi-Fi 6E support in your IoT application.

Guides

IoT Yocto Overview
Based on the Yocto project, IoT Yocto provides board support packages (BSP) for IoT evaluation kits and development boards.

Get Started
Easy steps to set up the development environment, build an image, flash the image to the board, and connect it to the board.

IoT Tools
IoT tools are a set of tools to configure and interact with MediaTek Evaluation boards.
MediaTek Genio 1200

Incredible performance, advanced multimedia and AI empowered SoC for industrial and commercial IoT applications.

MediaTek Genio 1200 is a flagship-grade SoC (system on chip) with leading 6nm design. It provides incredible performance, advanced multimedia and power efficiency for Edge computing and Edge AI applications. Its flexible I/O supports GbE, WiFi-6/5G modules suitable for IoT applications.

MediaTek Genio 1200 Evaluation Kit

The Genio_1200_EVK is an evaluation kit developed by MediaTek to facilitate IoT and intelligent device development. With low power consumption, advanced connectivity options, and support for diverse operating systems, it offers an excellent solution for developing Embedded and IoT applications.

Platform Highlights

- Leading 6nm chip design
- Octa-core CPU including 4X Super Cores: Arm Cortex-A78 and 4x Efficiency Cores: Arm Cortex-A55
- Up to 16GB of quad-channel LPDDR4X memory
- GPU Arm Mali-G57
- Display/Video: Dual 4K display and HEVC codec
- Embedded multi-core APU designed for demanding edge AI applications
- Camera: 48MP or 16MP+16MP@30fps with internal ISP
- Flexible high-speed I/O interface to support WiFi-6 and 5G Sub-6 module
- I/O: 1x PCIe Gen3, 1x PCIe Gen2, 2x USB3.1, 2x USB2.0 OTG/Host and 1x Giga Ethernet MAC
- OS: Android, Yocto, Ubuntu

The Evaluation and Development Kit includes the following hardware and interfaces

- Genio 1200 (MT8395) SoC
- 8GB of LPDDR4X, 64GB UFS 2.1 onboard
- Wi-Fi 6 + BT 5.2 (2x2) wireless connectivity
- 2x MIPI CSI daughterboard with cameras
- 1x HDMI Rx port, 1x HDMI Tx port
- 2x USB 3.2 ports, 1x Micro-USB OTG
- 1x Micro SD card slot
- 1x DP (USB Type-C)
- 1x LVDS
- 1x CANBUS
- 1x RJ45 fast ethernet
- 40-pin GPIO
- A 7-inch full HD LCM touch panel

Part #: Genio_1200_EVK

www.rutronik.com
MediaTek Genio 700

Great performance, advanced multimedia and AI empowered SoC for industrial and commercial IoT applications.

High-performance edge-AI IoT platform for smart home, interactive retail, industrial and commercial applications. Provides highly responsive edge processing, advanced multimedia, multi-tasking OS and more. Designed for products suitable for fanless enclosure designs and off-grid power solutions.

MediaTek designed the Genio_700_EVK evaluation kit to facilitate the development of IoT and embedded applications. With its excellent performance, low power consumption, advanced options, and multiple operations systems support, it is an ideal tool for innovating IoT and embedded solutions.

Platform Highlights
- Leading 6nm chip design
- Octa-core CPU including 2x ARM Cortex-A78 and 6x ARM Cortex-A55
- Up to 8GB of quad-channel memory
- Integrated Mali-G57 GPU to support Dual Display and AV1/H.265/H.264 codec
- Embedded powerful dual-core AI processors for Edge AI Applications
- Support 32MP@30fps camera with internal ISP
- Flexible high speed I/O interface to support WiFi-6 and 5G Sub-6 module
- I/O support 1x PCIe Gen2, 2x USB3.1, 2x USB2.0 OTG/Host and 1x Giga Ethernet MAC
- Support Android/ Linux Yocto/ Ubuntu OS

Key Applications
- Industrial: Edge AI, IoT gateway, HMI
- Smart Retail: Digital signage, desktop POS
- Smart Home: Fitness, smart home appliances

The Evaluation and Development Kit includes the following hardware and interfaces
- Genio 700 (MT8390) SoC
- 8GB of LPDDR4X
- 64GB eMMC 5.1 onboard
- Wi-Fi 6 + BT 5.2 (2x2) wireless connectivity
- 2x MIPI CSI daughterboard with cameras
- 1x USB 2.0 + 1x USB 3.0 ports
- 1x Micro SD card slot
- 1x HDMI Tx port
- 1x DP (USB Type-C)
- 1x RJ45 fast ethernet
- 40-pin GPIO
- A 7-inch full HD LCM touch panel
MediaTek Genio 500
Integrated Edge-processing Platform for Light AI Application

The MediaTek Genio 500 (4X Arm Cortex-A73 + 4X Cortex-A53, VP6 Dual Core APU, Mali-G52 GPU) is a powerful yet efficient IoT platform designed for portable, home or industrial IoT applications, advanced multimedia capabilities, multiple high-resolutions cameras, connected touchscreen displays, and multi-tasking OS.

MediaTek Genio 500 SoC

- Octa-core CPU: 4X Arm Cortex-A73, 2.0 GHz + 4X Arm Cortex-A53, 2.0 GHz
- GPU: Arm Mali-G52, 800 MHz (OpenGL, OpenCL, Vulkan)
- DSP: Dual-core Vision P6, 525 MHz (0.75 TOPS), Support TensorFlow Light
- 1 x USB 3.0 / 6 x I2C, 3 x I3C / 6 x SPI / 3 x UART
- Camera: 32MP @ 30fps
- Display: 1920x1080, MediaTek MiraVision
- OS: Android, Yocto, Ubuntu
- Power efficient 12nm SoC

Platform Highlights
- Fanless low-power platform for AIoT applications
- High-performance Octa-Core MediaTek Genio 500 processor
- Integrated AI processor for AIoT applications
- Full 1 HD hardware accelerated H.265/H.264 video decoding
- Dual-band 802.11ac Wi-Fi with Bluetooth 5.0, plus onboard SIM card slot
- MIPI DSI display, and MIPI CSI-2 camera support

VIA SOM Module and Carrier Board

Part #: SOM-9X50

MediaTek Genio 350
Evaluation Kit (EVK) for Entry IoT Application Prototyping

The MediaTek Genio 350 EVK provides a comprehensive evaluation kit for IoT application development, including HDK board with full chip functionality exposed, complete hardware development documentation and software development kit.

MediaTek Genio 350 SoC

- Sufficient Computing Power: 4X Arm Cortex-A53, 2.0 GHz
- Integrated Mali-G52 GPU
- Support FHD@60fps dual display and HEVC codec
- Embedded VP6 DSP and HiFi4 DSP for Edge AI Application
- Support 13MP@30fps camera with internal ISP and Multiple Camera
- Support Wi-Fi 5 Dual-Band 2T2R and Bluetooth 5.1 (with MT7663)
- Support USBx2: 2.0 OTG + 2.0 Host and 10/100 Ethernet MAC
- Support Android, Yocto, Ubuntu OS
- Power efficient 14nm SoC: Suitable for portable applications

Platform Highlights
- Full Evaluation Kit: Including HDK, SDK, Document and Tools
- Full functionality: Exhibits the Genio 350’s full capability possible, allowing easy customization and application development
- Choice of OS: Android, Linux Yocto or Ubuntu
- Easy to use: Publicly available online documentation

VIA SOM Module and Carrier Board

Part #: SOM-9X50

MediaTek Genio 350 Evaluation Kit

The Evaluation and Development Kit includes the following hardware and interfaces:

- Genio 350 (MT8385) SoC
- 3GB of LPDDR4X
- 64GB eMMC on board
- Wi-Fi 5 (2x2) wireless connectivity
- 2x MIPI CSI connectors with 1.3MP cameras
- 2x USB 2.0 ports

Specifications:
- 4X Arm Cortex-A53, 2.0 GHz
- Mali-G52 GPU
- Support 13MP@30fps camera with internal ISP and Multiple Camera
- Support Wi-Fi 5 Dual-Band 2T2R and Bluetooth 5.1 (with MT7663)
- Support USBx2: 2.0 OTG + 2.0 Host and 10/100 Ethernet MAC
- Support Android, Yocto, Ubuntu OS
- Power efficient 14nm SoC: Suitable for portable applications

Getting Started
MediaTek Genio Partner Solutions

Based on Mediatek Genio chipsets Rutronik can also offer embedded boards & solutions by adding, power supplies, storage components and TFT displays, as well as wireless connectivity solutions, sensors and all electromechanical components required to build up an intelligent embedded system for the emerging IoT market.

Case Study

Challenges: Deploying edge AI applications to power smart hand-held devices for POS (point of sale), face recognition, license plate, and object recognition applications, etc. presents many challenges. Ruggedized hardware that can withstand harsh environments and provide reliable and consistent connectivity is critical to optimal edge performance.

Key Business Outcomes
- Genio 500’s AI integration capability helped shorten development time by 15%
- Low power consumption increases product life by 20%
- 17% reduction in unstable connection between the product and the background
- 20% overall increase in job efficiency with the product

Key Features
- High-performance and data processing capability with 8-core CPU (4 x Arm A73 2.0 GHz +4 x Arm A53 2.0 GHz)
- Built-in independent APU (AI Acceleration Processor) with 0.7 TOPS AI computing power
- TensorFlow Lite integration interface
- 4G Cat7 and support 5G+5G dual card standby provides better stability and coverage
- 7W power consumption offers efficiency and extended usage

MediaTek Genio 1200

- 3.5”-SBC-i1200
- 3.5” SBC with I/O Extension Socket
  - 4GB/8GB LPDDR4X RAM, 32GB eMMC
  - 3x MIPI CSI for camera input
  - 1x DP, 1x MIPI DSI, 1x LVDS for video output
  - 1x 2.5 GbE LAN, 1x GbE LAN for Ethernet connection
  - 1x USB 3.2 Gen 1, 1x USB 2.0, 4x COM, 1x UART, 8x DIO
  - M.2 Key M & Key B expansion support
  - 1x I/O Extension socket (eDP, HDMI, I2C, UART)

MediaTek Genio 700

- 3.5”-SBC-EPC-R3810
- Pico-ITX SBC & I/O Extension Socket
  - Onboard LPDDR4 8GB, 4000MT/s memory
  - HDMI 4x60fps
  - 1x Dual Channel 24 bit LVDS
  - 1x 4-wire RS-232/422/485
  - 2x USB3.2 Gen1 By 1
  - 2x USB2.0
  - 1x Micro SD, 1x Mic. in/Line out
  - 1x M.2 3052 Key B for 5G
  - 1x M.2 2230 Key E Slot for Wi-Fi/BT
  - 6 rear I/O configurations available
  - SMARC Rel. 2.1.1 Module
  - Soldered-down LPDDR4X-3733 memory, up to 8GB total, 4x16-bit interface
  - Up to 2x Gb Ethernet
  - 1x USB 3.1, 2x USB 2.0
  - 1x CAN, 4 x UART
  - on Wi-Fi + BT 5.0, MIPI-CIS, 1x I2S
  - Mali G57 MC3 GPU
  - eMMC 5.1 Drive soldered on-board, up to 64GB (boot device); SDIO Interface
  - Linux Yocto

WILK

- 3.5”-SBC-R3810
- Pico-ITX SBC & I/O Extension Socket
  - 4GB/8GB LPDDR4X RAM, 32GB eMMC
  - 3x MIPI CSI for camera input
  - 1x DP, 1x MIPI DSI, 1x LVDS for video output
  - 1x 2.5 GbE LAN, 1x GbE LAN for Ethernet connection
  - 1x USB 3.2 Gen 1, 1x MIPI DSI, 1x LVDS for video output
  - 1x 2.5 GbE LAN, 1x GbE LAN for Ethernet connection
  - 1x USB 3.2 Gen 1, 4x USB 2.0, 4x COM, 1x UART, 8x DIO
  - M.2 Key M & Key B expansion support
  - 1x I/O Extension socket (eDP, HDMI, I2C, UART)

More Information

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