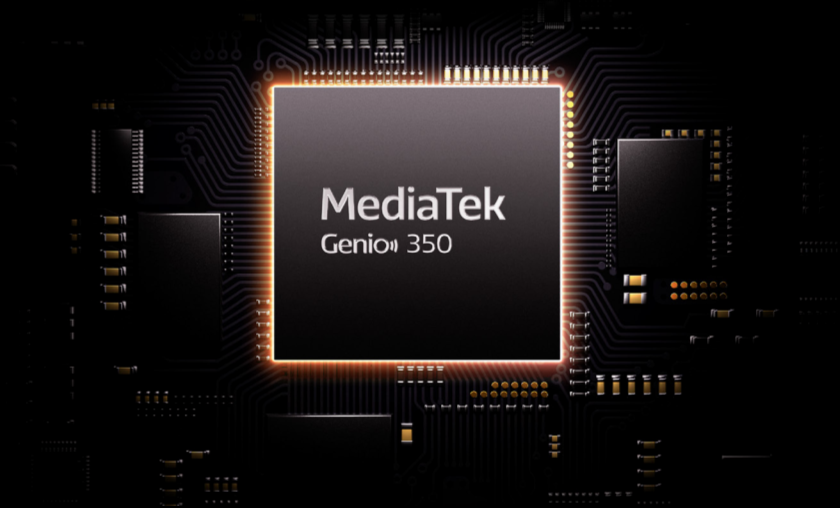


# MediaTek Genio 350

Powering Entry IoT Applications  
with Balanced Performance



## Key Overview

The MediaTek Genio 350 is a highly integrated entry IoT platform featuring a quad-core Arm Cortex-A53 processor system built on a 14nm process technology. The single chip integrates a camera ISP, Cadence Tensilica VP6 Vision DSP and a separate HiFi 4 Audio DSP, making it an ideal solution for a variety of consumer, enterprise and industrial applications that require a balance of computer vision/AI or audio processing, along with capable compute and multimedia. With a rich I/O capability that includes USB, Ethernet MAC, UART, SPI, I2C and extensive audio I/O interfaces, the Genio 350 offers a scalable platform for wide variety of IoT applications. Wireless connectivity is supported via an integrated Wi-Fi 5/Bluetooth 5 baseband. Android, IoT Yocto, and Ubuntu OS support provides developers with the flexibility to create scalable IoT and intelligent embedded solutions.

### Target Applications

- Fitness equipment
- Access control
- Smart retail kiosks
- Smart parking & charging systems
- Digital signage
- Smart building automation
- Fleet & traffic management
- Healthcare & remote patient monitoring

## Highlights



### Efficient & Balanced Computing Power

Ideal for portable and battery powered applications. The 4-core Arm Cortex-A53, and Arm Mali-G52 GPU, DSPs and peripheral IO are implemented in a single chip on a low-power 14nm process technology.



### Cost-Effective and Reliable

The modest power requirements and -20°C to 65°C ambient temperature range make it a cost-effective solution for consumer and commercial IoT deployments.



### On-Device AI, Vision, and Audio Acceleration

The integrated Cadence Tensilica Vision 6 DSP (VP6) enables efficient on-device acceleration for AI/computer vision for tasks like facial recognition and object detection using the MediaTek NeuroPilot SDK. The Cadence HiFi 4 DSP is optimized for audio algorithms, further off-loading the CPUs.



### Flexible Multimedia Capabilities

Supports dual displays (HD and Full HD resolutions), providing rich visual outputs for interactive kiosks and digital signage. The advanced image signal processor handles camera inputs up to 13MP@30fps, with features like noise reduction, face detection, and lens shading correction.



### Enhanced Connectivity

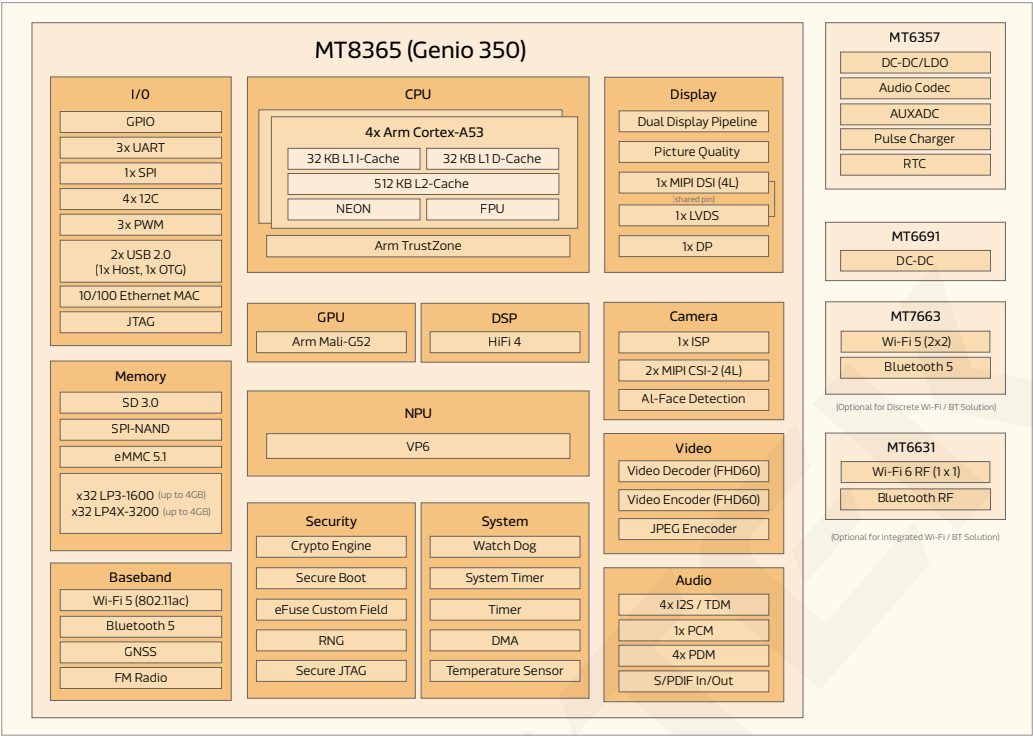
Equipped with interfaces like USB 2.0, Ethernet, and multiple UART/I2C/SPI connections, the Genio 350 simplifies integration into a wide range of edge devices. It supports audio features such as I2S and PDM inputs for devices requiring high-quality sound processing.



### Multi-OS Support

With support for Android, AOSP, IoT Yocto and Ubuntu operating systems and a rich ecosystem of partners, the Genio 350 can support a wide variety of applications & use-cases.

# Block Diagram



# Specifications

|                            |                     |   |
|----------------------------|---------------------|---|
| Processors                 | CPU                 | 4xArm Cortex-A53 @ 2.0GHz   |
| Memory & Storage           | Memory Type & Speed | LPDDR3 up to 1600Mbps, up to 4GB<br>LPDDR4x up to 3200Mbps, up to 4GB   |
|                            | Storage Type        | eMMC 5.1<br>SD 3.0<br>SPI-NAND  |
| AI                         | NPU                 | Cadence Tensilica VP6 DSP (0.35 TOPS)   |
| Graphics                   | GPU                 | Arm Mali-G52<br>Supports OpenGL, Vulkan, OpenCL   |
| Display & Video            | Display Support     | Dual display (FHD + HD)<br>Single display (FHD)   |
|                            | Video Encode        | H.264/H.265 (FHD60)   |
|                            | Video Decode        | MPEG4/H.264/H.265 (FHD60)   |
|                            | JPEG Encode         | N/A   |
|                            | JPEG Decode         | Yes   |
| Peripheral Interfaces (IO) | Host/Host Device    | 1x USB 2.0 (Host)<br>1x USB 2.0 (Host/Device)   |
|                            | Interfaces          | 10/100 Ethernet MAC<br>3x UART<br>4x I2C<br>1x SPI Master<br>3x PWM   |
|                            | Audio               | Integrated Cadence Tensilica HiFi4 DSP<br>2x I2S input/2xI2S output<br>1xTDM input/1xTDM output<br>4x PDM input<br>1x PCM input/output<br>1x SPDIF input, 1x SPDIF output |
| Wireless Connectivity      | Wi-Fi/Bluetooth     | Integrated 1x1 Wi-Fi 5<br>Bluetooth 5.0   |
| Camera                     | ISP                 | 1x ISP<br>Single camera: 13MP @ 30fps   |
| Package                    | Type                | 12.2x11.8x0.9mm, 0.4mm ball pitch   |