

The Rapidise Bodycam platform is offered in at least two distinct variants, each utilizing different chipsets and communication modules tailored for specific performance needs, ranging from standard high-definition recording to advanced mobile edge intelligence. Here is a breakdown of the integrated chipsets, sensors, communication modules, and the advantages they provide:

1. Rapidise Bodycam (General Model)

This variant focuses on reliable, round-the-clock video and audio documentation.

Chipsets and Processors

Component	Detail	Advantage Provided	Source(s)
Processor	Arm Cortex A7 @ 1GHz	Provides core functionality for video processing and supports Android application operation.	
Cache/Support	32KB I-Cache, 32KB D-Cache, 128KB L2 Cache; includes Neon & FPU Support	Enhances processing speed and efficiency for data handling.	

Sensors and Imaging

Component	Detail	Advantage Provided	Source(s)
Camera/Imaging	Delivers sharp, high-definition video and clear audio recording . Features enhanced night vision .	Ensures reliable video and audio documentation even in low-light or dark conditions .	
Video Encoder	Video Encoding H.265 + (compatible H.265/H.264) High Profile, JPEG snapshot	Provides high-efficiency video compression to reduce file size while maintaining high quality.	

Communication Modules

Component	Detail	Advantage Provided	Source(s)

Wireless	Wi-Fi	Enables Recording and Streaming capabilities.	
Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, PPPoE, SMTP, NTP, HTTPs	Supports a full suite of network protocols for secure and reliable communication and data transfer over a network.	

2. LTE Bodycam / RISE C1 Series Body Camera

This rugged, body-worn camera is designed for applications requiring **reliable, mobile edge intelligence**.

Chipsets and Processors

Component	Detail	Advantage Provided	Source(s)
Platform/SOC	Qualcomm QCS5430 (part of the RISE C1 series)	Provides a powerful, integrated solution for advanced edge computing and surveillance.	
CPU	Qualcomm® Kryo 670 CPU	Offers high processing power necessary for demanding field applications.	
AI Engine / DSP	6 Cores, Qualcomm® Adreno 642L GPU , Qualcomm® Hexagon 770 Processor , Fused AI Accelerator Architecture. The Hexagon DSP provides 1.1 TOPS of NPU performance.	Enables onboard AI algorithms for intelligent functions like Gun/Gunshot Detection, Violence Detection, and Help/Distress Detection. This allows for proactive and intelligent recording without officer intervention .	

Sensors and Imaging

Component	Detail	Advantage Provided	Source(s)
-----------	--------	--------------------	-----------

Camera Sensors	2MP Main Camera + 2MP Optional USB Mini Camera	Supports video recording and streaming functionality, including a flexible, multi-camera option.	
ISP	Dual(16+24)	High-performance Image Signal Processor crucial for image quality tuning and handling multiple video streams.	
Location Sensor	GPS Enabled	Provides accurate positioning and location services, essential for law enforcement and field operations.	
Display	2" MIPI-DSI Display	Provides a user interface and on-device display capability.	

Communication Modules

Component	Detail	Advantage Provided	Source(s)
Cellular/Data	LTE CAT 6 (M.2 based) interfaced via USB3.0	Ensures reliable mobile communication for streaming video and audio, and supports remote connectivity.	
Wireless	BLE 5.0	Provides low-power wireless communication. This technology, or RF, can be used for the proposed Hardware-Based Trigger Activation solution to wirelessly signal the body camera.	

Integration Advantage: Automatic Activation

A significant advantage provided by the platform architecture (especially the LTE Bodycam's AI capabilities) is the ability to implement automatic activation systems:

- **AI-Based Activation (Software/Algorithm):** Onboard AI detects high-risk events (e.g., Gun/Gunshot Detection, Knife Detection, Violence Detection) and switches the camera from Low-Power (Sleep) Mode to full-resolution recording. This ensures critical events are captured and enhances evidentiary quality.
- **Hardware-Based Activation (Sensor/Module Integration):** An optional **Reed Switch** can be integrated into the gun holster's strap. When the firearm is drawn, the switch is triggered and signals the body camera to start recording instantly.

Both solutions ensure that a **pre-buffered duration (e.g., the last 30–60 seconds)** of footage is saved to preserve the context leading up to the trigger event.