Uranus Drones
HD/Ultra-HD, HDMI H.265 Encoder

An advanced HD/Ultra-HD, HDMI H.265 encoder, Uranus Drones supports end-to-end 100msec ultra-low-latency streaming over networks, using Maris SW player for Windows, Linux and Android. Uranus Drones streams over wired and wireless networks, supporting Unicast, Multicast, Broadcast in UDP, RTP, RTSP.

Uranus Drones includes on board 6 TOPS AI capabilities. With an optional AI acceleration addon module within the same factor, AI capabilities may be expanded for an additional 26 TOPS. This enables high AI accuracy detection and classification, as well as hosting customers' AI processes.

Markets and Applications

Drones
Unmanned vehicles:
UAVs, UGVs, USVs

Defense
Target recognition,
observation, and
situational awareness
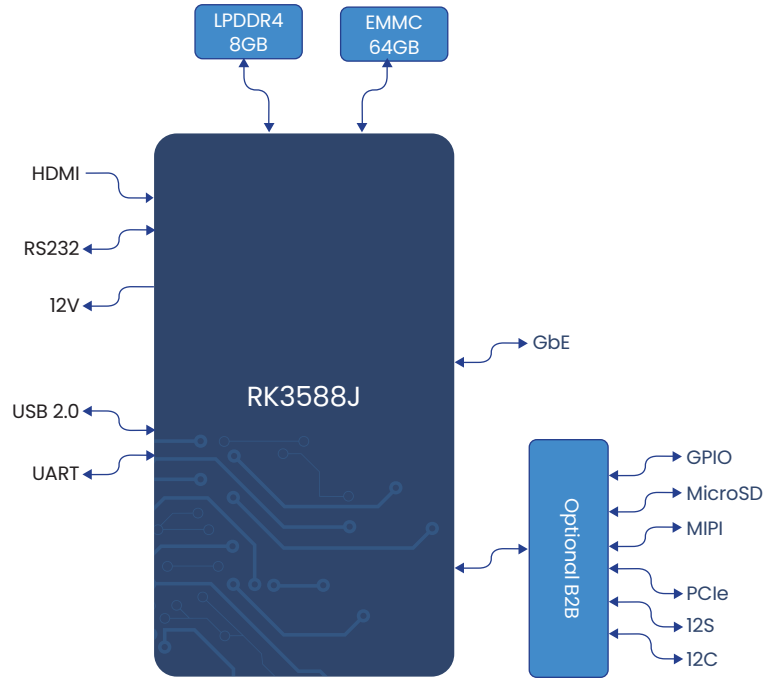
Key Benefits

- Compact form factor
- Reliable HDMI connection
- Supports Ultra HD

Key Features

- Video raw-data pre-processing, including scaling and graphics overlay
- Transport stream (including metadata container generation)
- Video and data simultaneous local recording and playback
- Streaming over wired and wireless networks, supporting Unicast, Multicast, Broadcast in UDP, RTP, RTSP with FEC support

- Optional AI acceleration add-on module within the same factor, AI capabilities may be expanded for an additional 26 TOPS.
- Support end-to-end 100msec ultra-low-latency streaming over networks using Maris SW player for Windows, Linux and Android

Block Diagram

Technical Specifications

SOC	RockChip RK3588J
CPU	Octa-core 64-bit (4×Cortex-A76+4×Cortex-A55), 8nm lithography process, clock speed up to 2.2GHz
GPU	ARM Mali-G610 MP4 quad-core GPU Support OpenGL ES3.2/OpenCL 2.2/Vulkan 1.1, 450 GFLOPS
NPU	NPU computing power up to 6 TOPS Supports INT4/INT8/INT16 mixed operation Supports framework switching of TensorFlow/MXNet/PyTorch/Caffe
ISP	Integrated 48MP ISP with HDR & 3DNR
VPU	Video encoding: 16 x 1080@30fps encoding streams can be achieved
RAM	8GB 64bit LPDDR4/LPDDR4 (industrial grade)
Storage	64GB eMMC (industrial grade)
Video In	HDMI in
USB	Single 3.0
Wireless Connectivity	Serial port