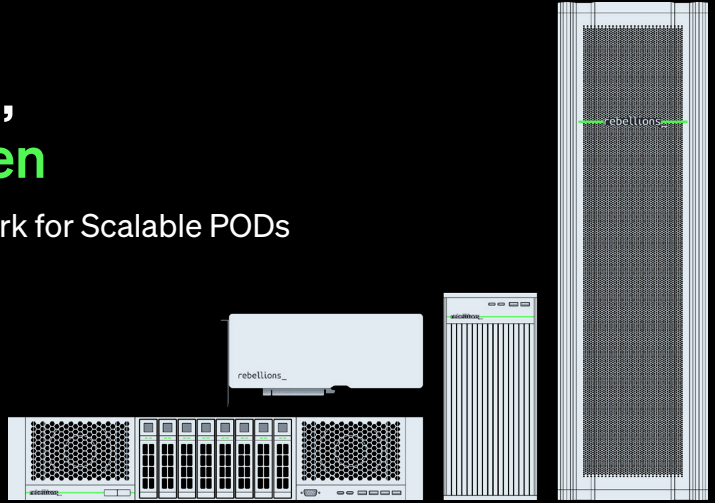# Start Lean,
# Scale Green

## Modular Framework for Scalable PODs

## Rebellions Scalable Design(RSD)

Rebellions Scalable Design (RSD) is the architectural foundation that empowers the seamless and flexible support for LLMs across a wide range of sizes. From inter-chip connections to multi-card configurations, servers, and even rack-level datacenter deployments, RSD provides a scalable, energy-efficient, and highly capable solution to cater to all requirements.

### Key Benefits

### Scalability

Scale out from a single chip to multiple racks effortlessly with RSD's modular architecture.

### Flexibility

RSD boasts exceptional flexibility, made possible by our highly configurable chip and the versatile RBLN Compiler. Our cutting-edge technology not only supports a wide range of models but also incorporates the latest advancements like RAG.
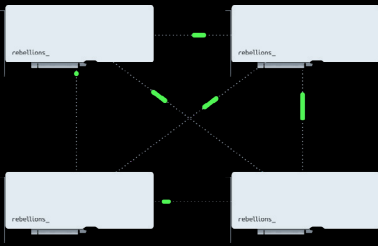
### Efficiency

Our lightweight, powerful chip includes only the essential components for inference. It incorporates a memory architecture that not only maximizes efficiency but also maintains superior performance.
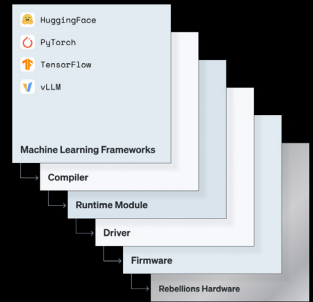
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| Specification | Server | Rack |
|---|---|---|
| NPU | 16 x ATOM™ | 224 x ATOM™ |
| TFLOPS (FP16) | 512 | 7,168 |
| TOPS (INT8) | 2,048 | 28,672 |
| Memory (GDDR6) | 256GB | 3.5TB |
| Memory Bandwidth | 4TB/s | 56TB/s |
| SRAM | 1GB | 14GB |
| TDP | 2.5kW | 35kW |
| OS | Ubuntu Linux, RHEL & Rocky Linux | Ubuntu Linux, RHEL & Rocky Linux |
| Cloud Support | Kubernetes, OpenStack | Kubernetes, OpenStack |

## Key Features



### Parallel Computing

By strategically partitioning the computational workload at the tensor level, RSD achieves efficient parallel computing and ensures minimal latency.

### Software Stack

Rebellions Software Stack is designed to optimize hardware performance to its fullest potential. RBLN SDK effortlessly integrates with popular industry models, prioritizing seamless integration and user-friendly experiences.



HuggingFace
PyTorch
TensorFlow
vLLM

**Machine Learning Frameworks**

Compiler

Runtime Module

Driver

Firmware

Rebellions Hardware

### Flexible Deployment

A one-stop solution for quick deployment, RSD comes pre-configured and ready to use based on your specific requirements. Whether you need to launch your project as soon as possible or expand your business in the future, RSD's flexibility allows for a swift time-to-market and effortless scalability.

Discover More
**rebellions.ai**

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