

Enable Always-On AI in Everyday Devices with ColibryNPU

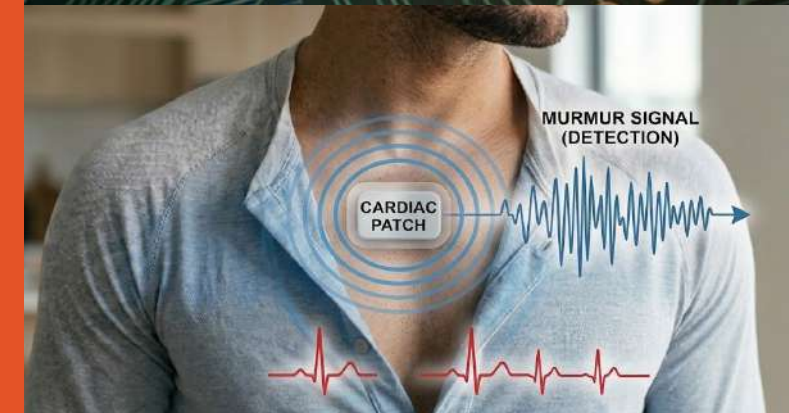
15/10/2026



Thomas Gillot
Business Developer

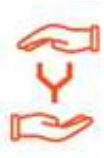


Adrien Vialletelle
AI Business Director



Chips for enhancing Electronic Devices

ASYGN



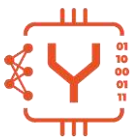
2008
Creation



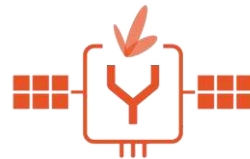
50
Employees



Grenoble
ASYGN SAS



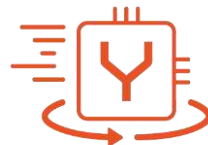
Embedded AI
Ultra Low Power NPU



SatCom
Beamforming chips

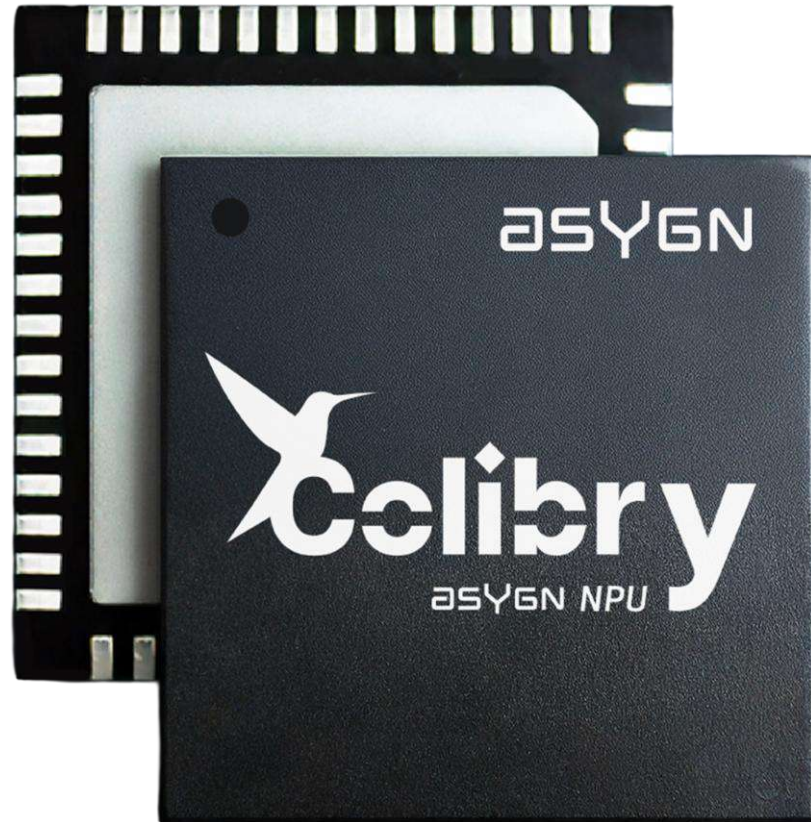


RFID
Battery-free sensors



Inertial
High-performance chips for sensors

ColibryNPU, Make your Devices Smarter



Enable devices to **interact** with their environment



Run embedded AI with **minimal impact** on battery life

Enable Embedded AI to Your Markets

MedTech



Smart Patch

IoT



Autonomous Sensor

Wearables



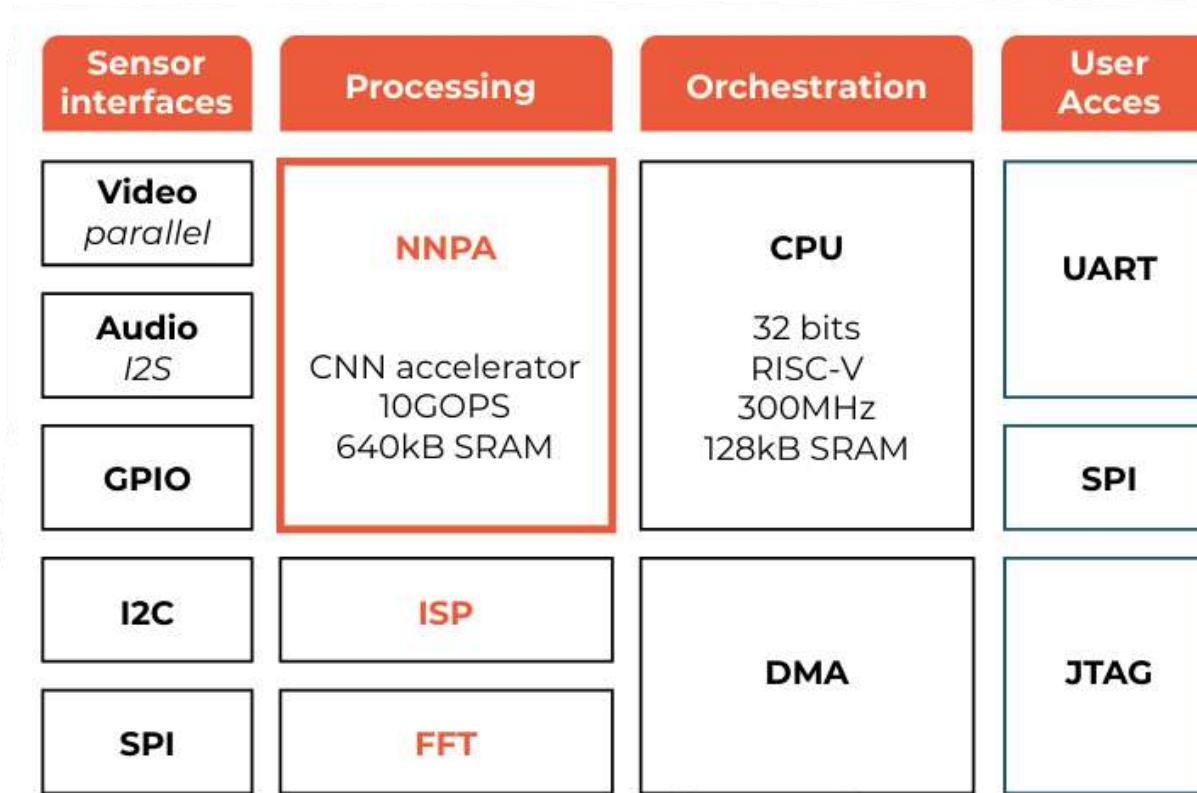
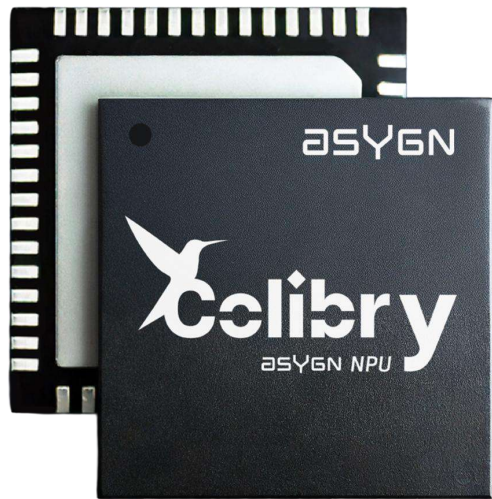
Smart Glasses

Toys



**Smart Computing
Brick for Robots**

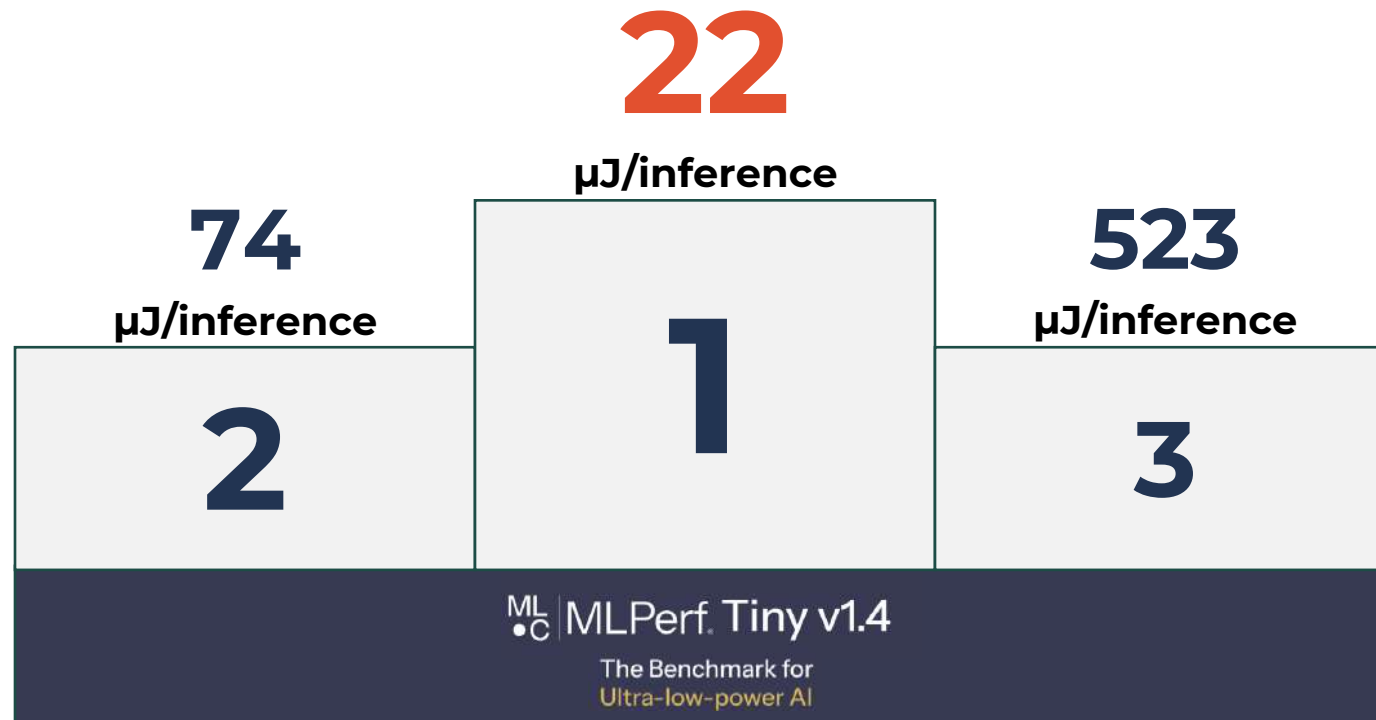
Optimized Architecture for Neural Network Computing



Supported Layers

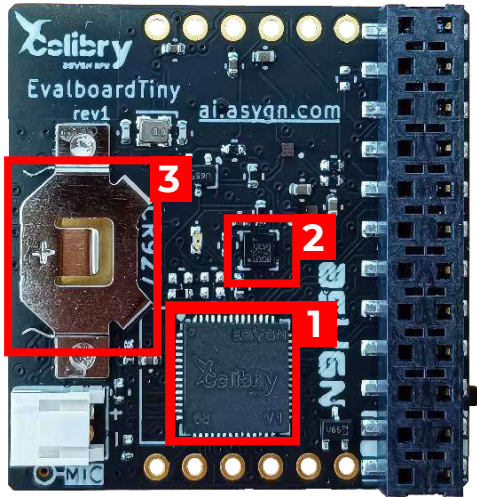
- Pointwise & Depthwise Convolution (Conv2D)
- Dense
- Average/Max & GlobalAverage Pooling
- Batch Normalisation
- Add
- Linear/ReLU Activation

Best-in-Class Performance in 2026

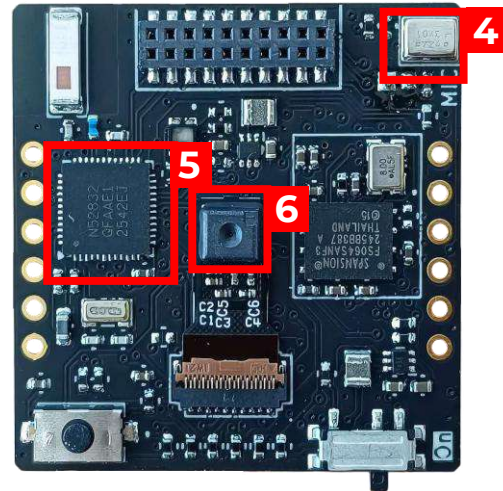


<https://mlcommons.org/benchmarks/inference-tiny/>

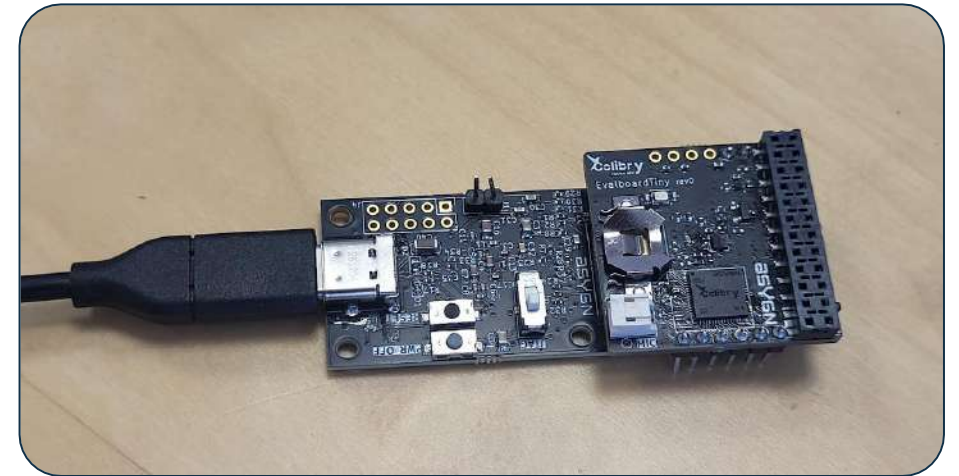
Evaluate ColibryNPU



- 1. **ColibryNPU**
- 2. CR927 slot
- 3. Accelerometer

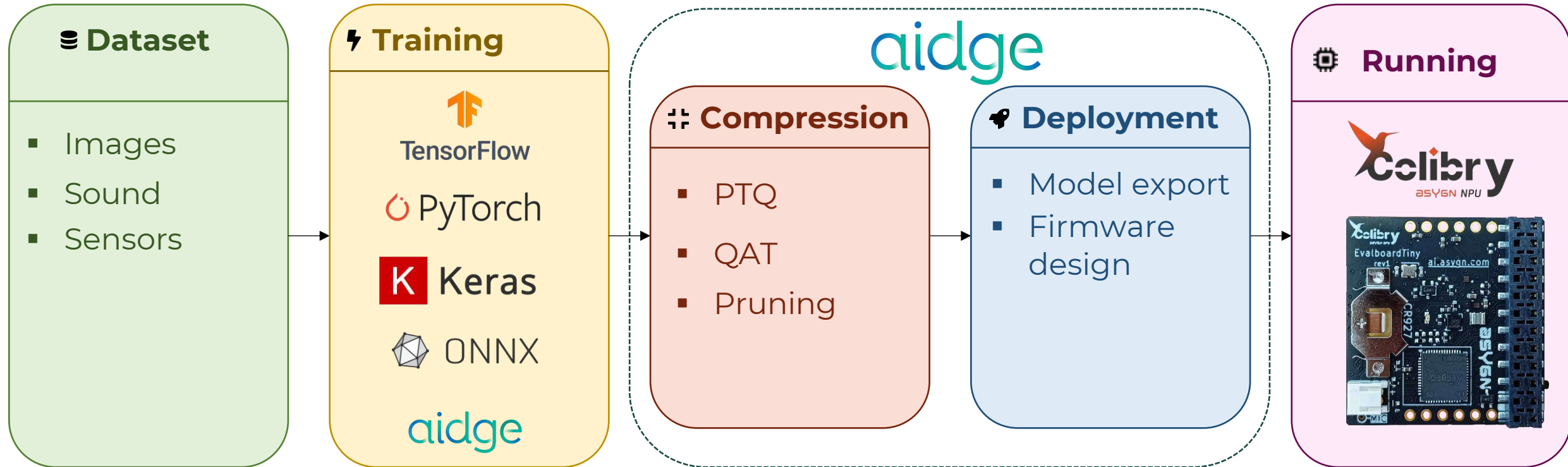


- 4. Microphone
- 5. BLE
- 6. QVGA Camera

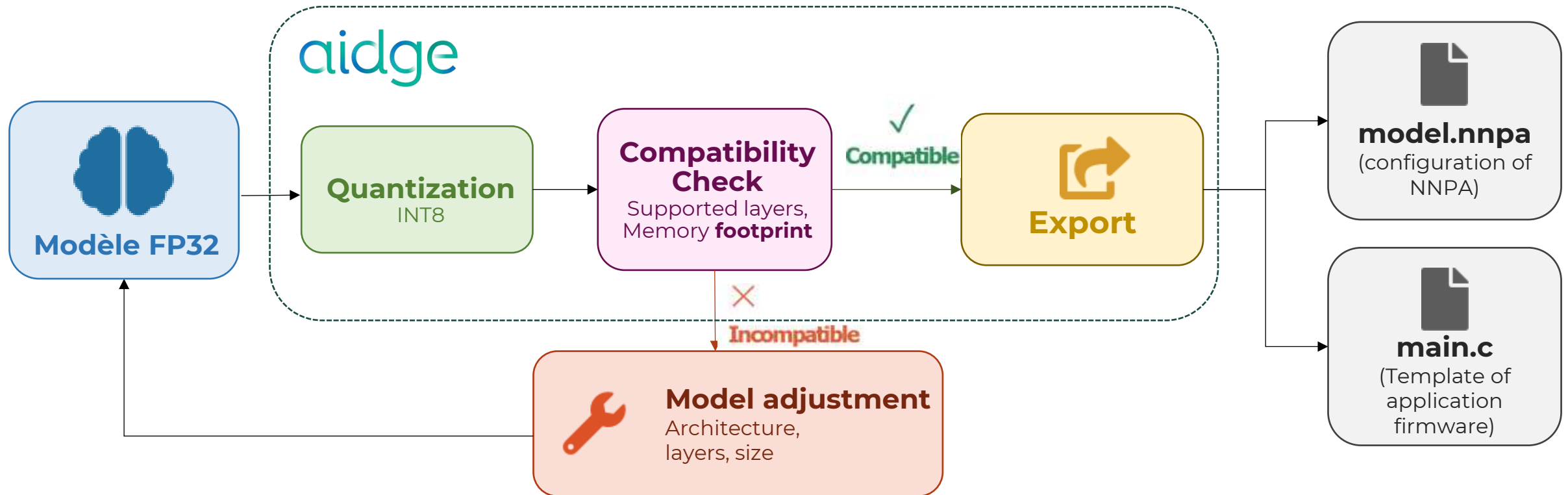


Programming/Debugging ColibryNPU
Over USB with **ColibryProbe**

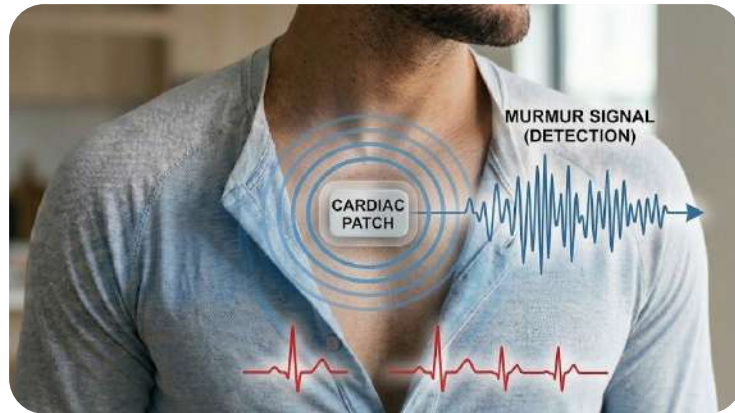
Design and Embed Your First AI Model



Compress your first AI Model



Heart Murmur detection with ColibryNPU



Smart Patch with One-Month Battery Life



Accelerometer

+



ColibryNPU

+



nRF

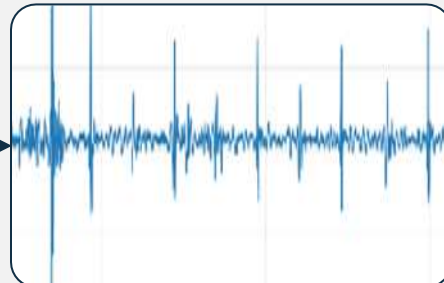
+



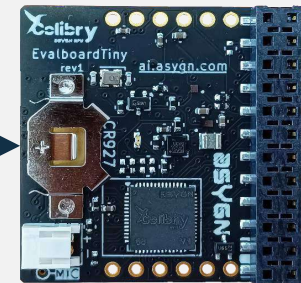
20mAh Battery



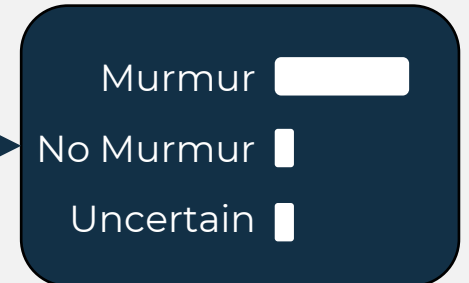
Heart Auscultation



Phonocardiogram

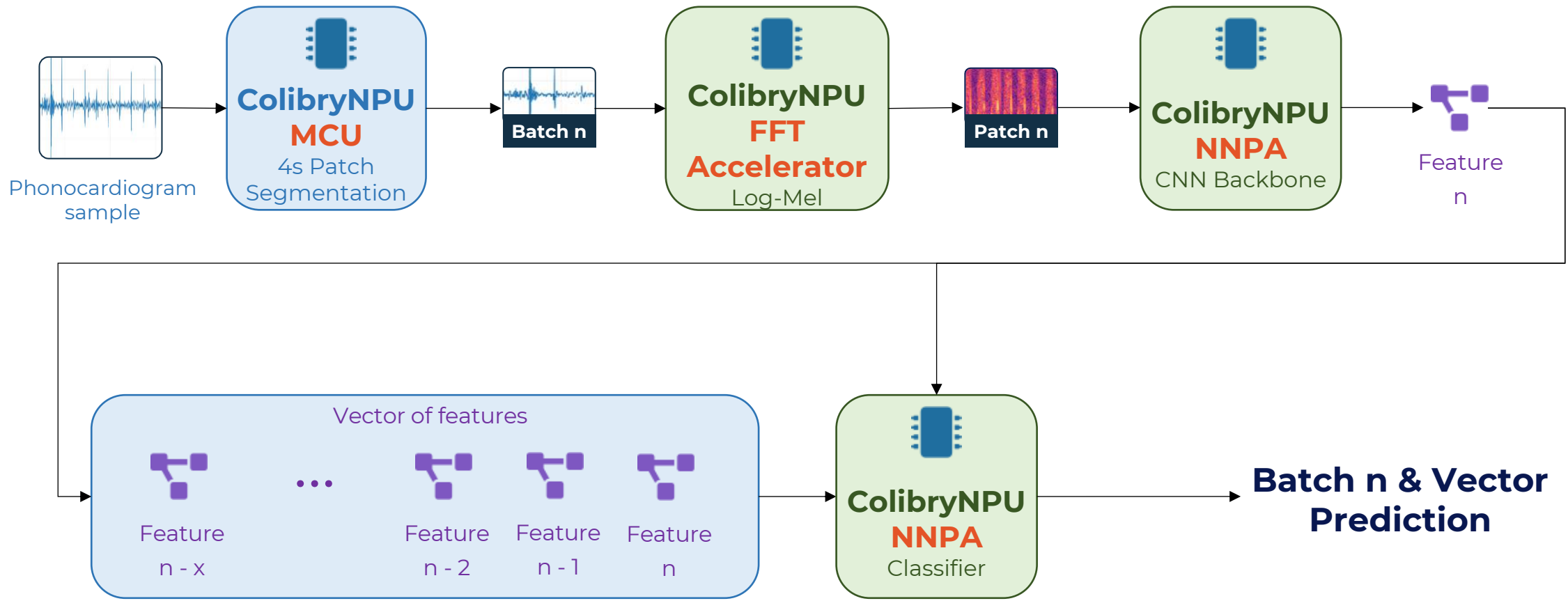


ColibryNPU



Prediction

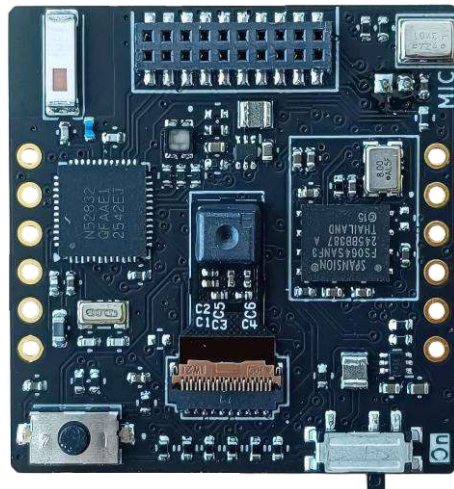
Processing Pipeline



Features Used by ColibryNPU

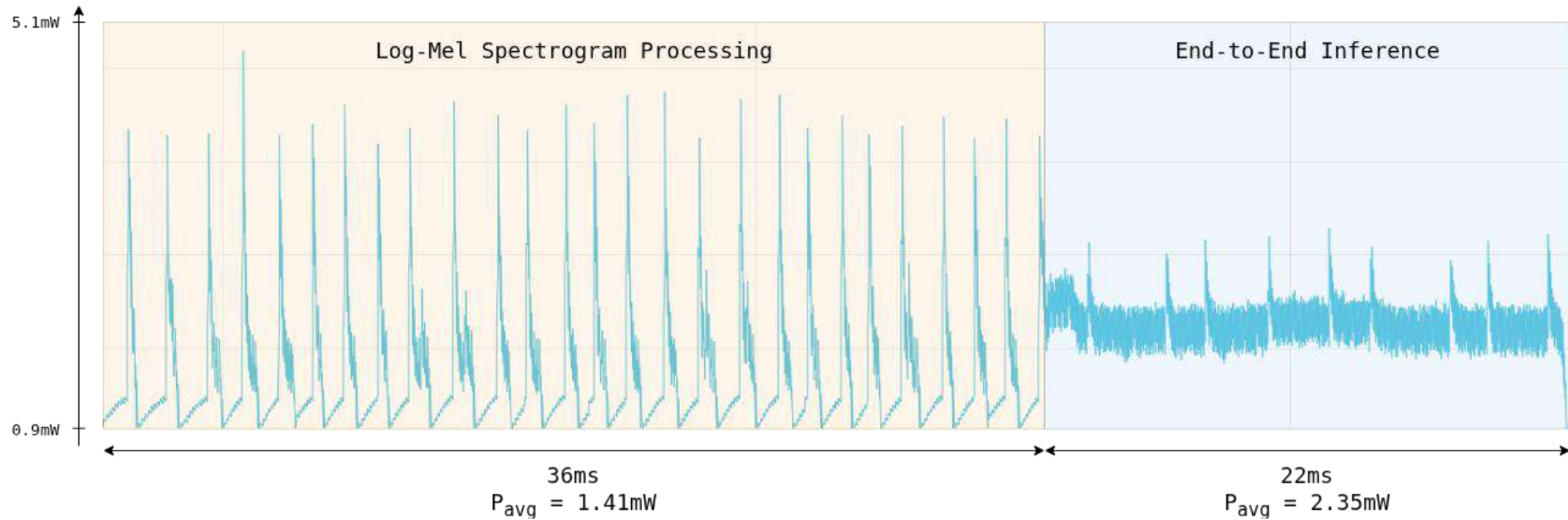


ColibryNPU



Sensor interfaces	Processing	Orchestration	User Acces
Video parallel	NNPA	CPU	UART
Audio I2S	CNN accelerator 10GOPS 640kB SRAM	32 bits RISC-V 300MHz 128kB SRAM	
GPIO			SPI
I2C	ISP		JTAG
SPI	FFT	DMA	

ColibryNPU Power Consumption



31 μ W

1 inference every 4 seconds

80 Days

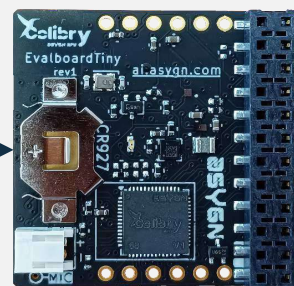
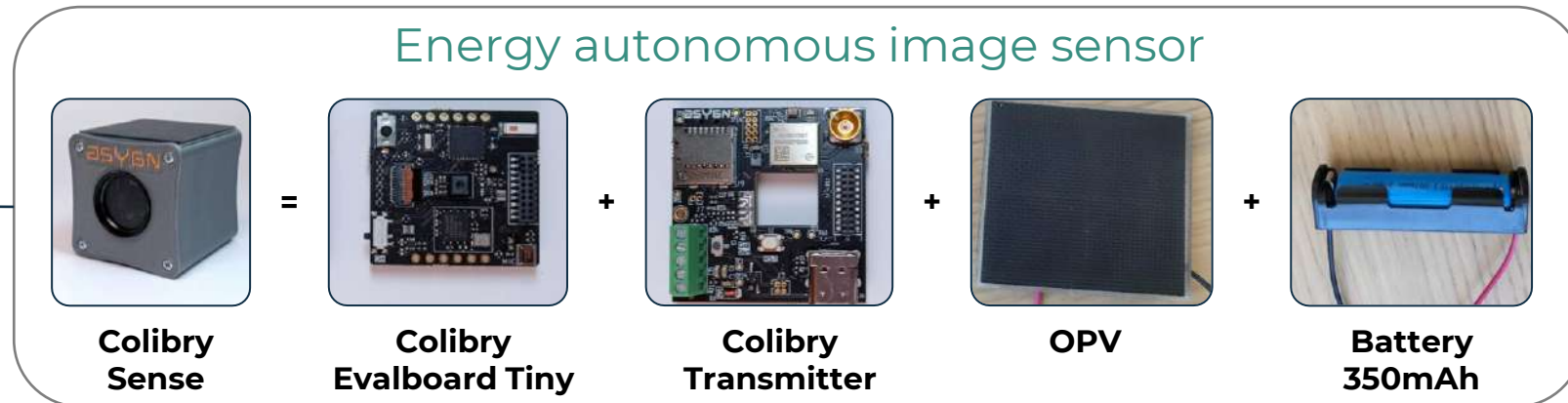
20 mAh Battery

Performance

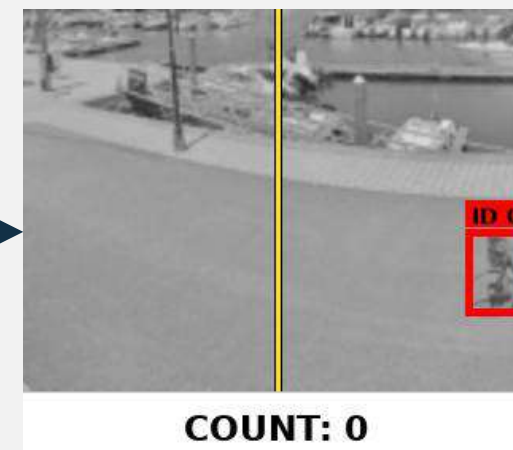


Indicator	Heart Murmur Detection (40 MHz)
Accuracy	86%
Latency	58 ms
Memory	225 kB
Power Consumption	31 μ W 1 inference / 4s

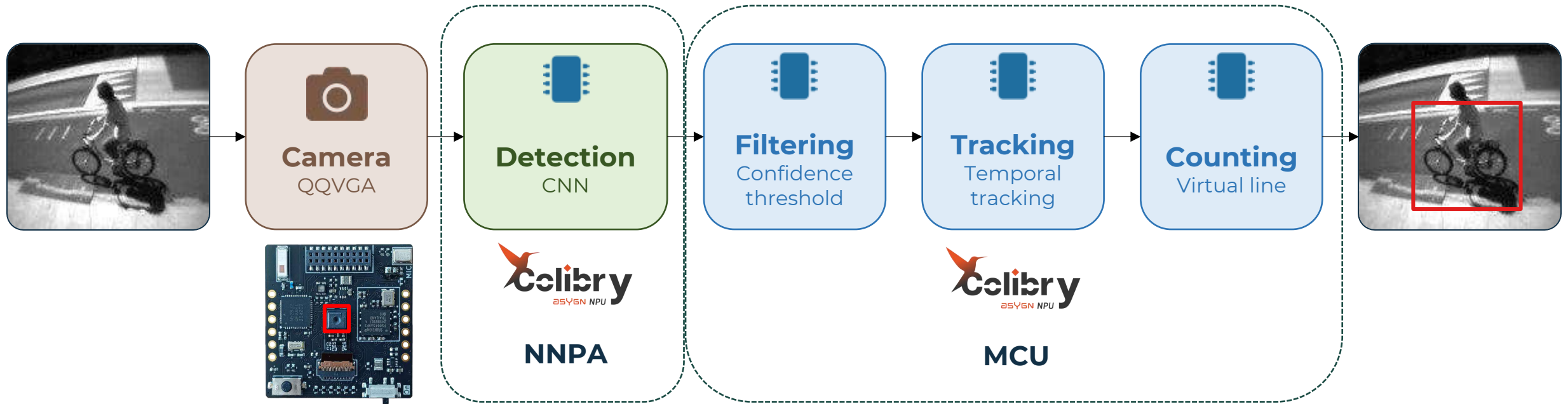
Bike Counting with ColibryNPU



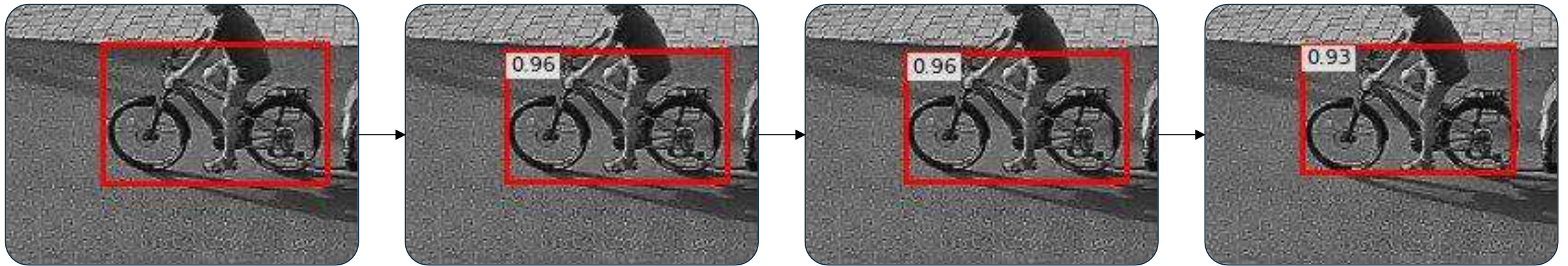
Detection, Tracking and Counting



Processing Pipeline



Validation of the accuracy after export



Reference

FP32

Quantized INT8

Colibry

 PyTorch

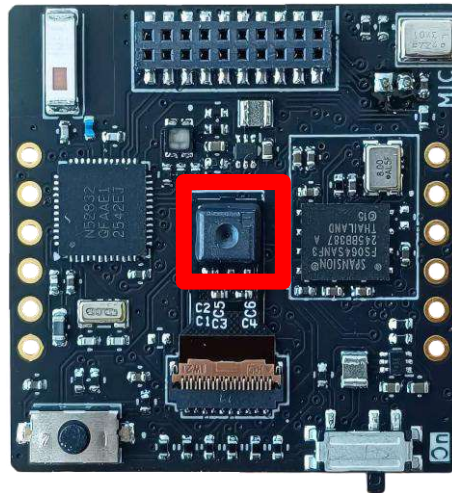
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 Colibry
ASYGN NPU

Features Used by ColibryNPU



ColibryNPU



QQVGA Camera

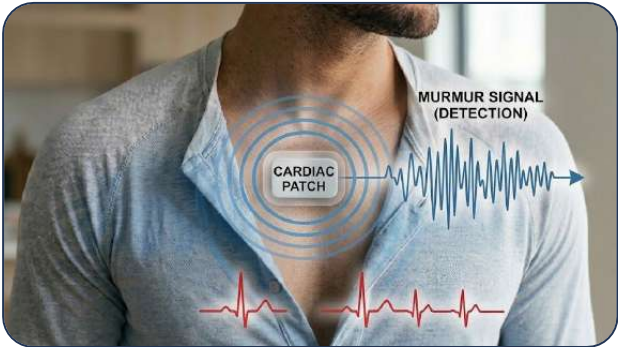
Sensor interfaces	Processing	Orchestration	User Acces
Video parallel	NNPA CNN accelerator 10GOPS 640kB SRAM	CPU 32 bits RISC-V 300MHz 128kB SRAM	UART
Audio I2S			
GPIO			SPI
I2C	ISP		
SPI	FFT	DMA	JTAG

Performance



Indicator	Bike Counting (50 MHz)
Accuracy	93%
Latency	55 ms
Memory	140 kB
Power Consumption	1.5mW @15 FPS

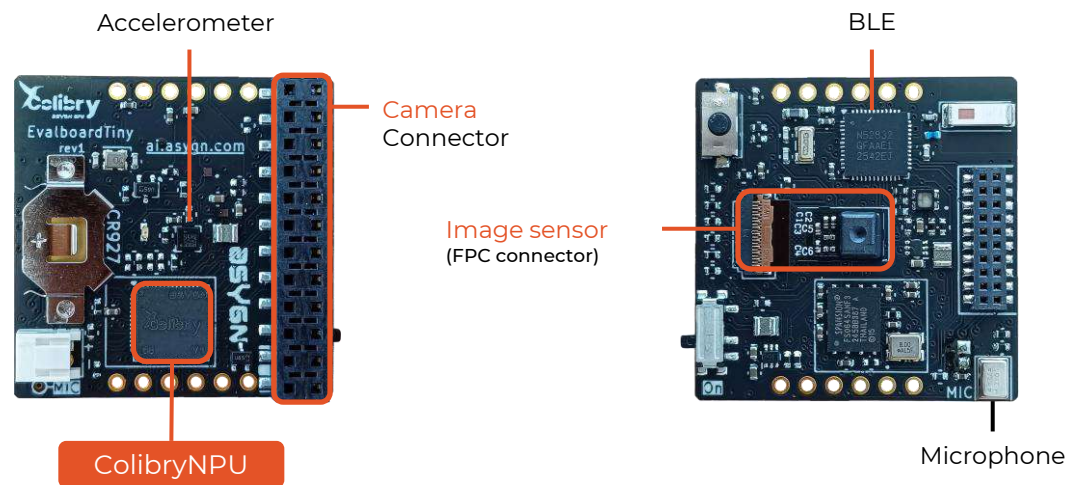
Summary of Results



Indicator	Heart Murmur Detection (40 MHz)	Bike Counting (50 MHz)
Accuracy	86%	93%
Latency	58 ms	55 ms
Memory	225 kB	140 kB
Power Consumption	0.031 mW 1 inference / 4s	1.5 mW @15 FPS

Thank you !

Discover our products - **ASYGN**





Thank you !

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