

This checklist must be submitted as a PDF as part of your submission.

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Name(s) of System Under Test:

NUCLEO-L4R5ZI, NUCLEO-H7A3ZI-Q, NUCLEO-U575ZI-Q

Division (check one):

- ☐ Open
☒ **Closed**

Category (check one):

- ☒ **Available**
☐ Preview
☐ Research, Development, and Internal (RDI)

Benchmark(s) (check all that apply):

- ☒ **Visual Wake Words**
☒ **Keyword Spotting**
☒ **Anomaly Detection**
☒ **Image Classification**

Please fill in the following table adding lines as necessary:

System Under Test Name	Benchmark	Accuracy/AUC
NUCLEO_L4R5ZI	Anomaly Detection (AD)	77.8% / 0.86
NUCLEO_L4R5ZI	Image classification (IC)	87.0% / 0.98
NUCLEO_L4R5ZI	Keyword Spotting (KWS)	90.2% / 0.99
NUCLEO_L4R5ZI	Visual Wake Words (VWW)	85.2% / 0.94
NUCLEO-H7A3ZI-Q	Anomaly Detection (AD)	77.8% / 0.86
NUCLEO-H7A3ZI-Q	Image classification (IC)	87.0% / 0.98
NUCLEO-H7A3ZI-Q	Keyword Spotting (KWS)	90.2% / 0.99
NUCLEO-H7A3ZI-Q	Visual Wake Words (VWW)	85.2% / 0.94
NUCLEO-U575ZI-Q	Anomaly Detection (AD)	77.8% / 0.86
NUCLEO-U575ZI-Q	Image classification (IC)	87.0% / 0.98
NUCLEO-U575ZI-Q	Keyword Spotting (KWS)	90.2% / 0.99
NUCLEO-U575ZI-Q	Visual Wake Words (VWW)	85.2% / 0.94

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For each SUT, is the benchmark Accuracy/AUC target met? (Not a requirement for the Open division) (check all that apply):

- ☒ **Yes (Visual Wake Words ... 80% Accuracy)**
- ☒ **Yes (Keyword Spotting ... 90% Accuracy)**
- ☒ **Yes (Anomaly Detection ... 0.85 AUC)**
- ☒ **Yes (Image Classification ... 85% Accuracy)**
- ☐ No, for some combination of benchmark, scenario and SUT

For each SUT and benchmark, did the submission run on the whole validation set in accuracy mode? (check one):

- ☒ **Yes**
- ☐ No

For each SUT and benchmark, does the submission use the EEMBC Runner? (check one)

- ☒ **Yes**
- ☐ No

For each SUT and benchmark, is the same code run in accuracy and performance modes? (check one)

- ☒ **Yes**
- ☐ No

Are the weights calibrated using data outside of the official calibration set? (check one)

- ☐ Yes
- ☒ **No**

What numerics does the submission use? (check all that apply)

- ☐ INT4
- ☒ **INT8**
- ☐ INT16
- ☐ UINT8
- ☐ UINT16
- ☐ FP11
- ☐ FP16
- ☐ BF16
- ☐ FP32
- ☐ Other, please specify:

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What backend does the submission use? (check all that apply)

- ☐ Vendor backend, please name:
- ☐ TF-Lite Micro
- ☐ Micro TVM
- ☒ **Other, please specify: X-CUBE-AI v9.0.0**

Which of the following caching techniques does the submission use? (check all that apply, ideally none):

- ☐ Caching Inputs between iterations
- ☐ Caching responses between iterations
- ☐ Caching intermediate computations between iterations

Which of the following techniques does the submission use? (check all that apply, ideally none if submitting to the closed division.)

- ☐ Quantization aware training
- ☐ Wholesale weight replacement
- ☐ Weight supplements
- ☐ Discarding non-zero weight elements
- ☐ Pruning
- ☐ Modifying weights during the timed portion of an inference run
- ☐ Hard coding the total number of queries
- ☒ **None of the above**

Is the submission congruent with all relevant MLPerf rules?

- ☒ **Yes**
- ☐ No

If the answer to the above question is no, please explain:

For each SUT, have you filled out the JSON system description file?

- ☒ **Yes**
- ☐ No

For each SUT, does the submission accurately reflect the real-world performance of the SUT?

- ☒ **Yes**
- ☐ No

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Does your submission include the following: (check all that apply)

- ☒ **System description file**
- ☒ **Code that implements the benchmarks**
- ☐ Code/scripts that train the model(s) (Open Division)
- ☒ **Metadata that describes each system-implementation combination tested**
- ☒ **Scripts that set up and execute each system implementation tested**
- ☒ **Result logs for each system implementation tested**
- ☒ **This Checklist**