

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

Name of Certifying Engineer(s): Cheng-Tao Hsieh
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Name(s) of System Under Test: NUCLEO_L4R5ZI

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	AD	AUC: 0.87
	IC	Top-1: 87%
	KWS	Top-1: 91.4%
	VWW	Top-1: 84.7%

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

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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:

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

- ☐ Vendor backend, please name:
- ☐ TF-Lite Micro
- ☐ Micro TVM
- ☐ Other, please specify: ✓
Tiny ONNC with CMSIS-NN intergration.

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

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- ☐ 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

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 ✓