Name of Certifying Engineer(s): Romain TRILLING
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Name(s) of System Under Test:

      NUCLEO-L4R5ZI-P, NUCLEO-L4R5ZI-P_70MHz, NUCLEO-U385RG-Q,
      NUCLEO-U575ZI-Q, NUCLEO-U575ZI-Q_60MHz,
      NUCLEO-H7A3ZI-Q, NUCLEO-H7A3ZI-Q_40MHz

Division (check one):
- ❏ Open
- ☑ **Closed**

Category (check one):
- ☑ **Available**

Benchmark(s) (check all that apply):
- ☑ **Visual Wake Words**
- ☑ **Keyword Spotting**
- ☑ **Anomaly Detection**
- ☑ **Image Classification**
- ☑ **Streaming Wake Word**

Please fill in the following table adding lines as necessary:

System Under Test Name	Benchmark	Accuracy/AUC
NUCLEO_L4R5ZI-P	Anomaly Detection (AD)	77.8% / 0.86
NUCLEO_L4R5ZI-P	Image classification (IC)	87.0% / 0.98
NUCLEO_L4R5ZI-P	Keyword Spotting (KWS)	90.2% / 0.99
NUCLEO_L4R5ZI-P	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
NUCLEO-U385RG-Q	Anomaly Detection (AD)	77.8% / 0.86
NUCLEO-U385RG-Q	Image classification (IC)	87.0% / 0.98
NUCLEO-U385RG-Q	Keyword Spotting (KWS)	90.2% / 0.99
NUCLEO-U385RG-Q	Visual Wake Words (VWW)	85.2% / 0.94

System Under Test Name	Benchmark	FN / FP
NUCLEO_L4R5ZI-P	Streaming Wake Word (SWW)	6 / 4
NUCLEO_L4R5ZI-P_70MHz	Streaming Wake Word (SWW)	6 / 4
NUCLEO-U385RG-Q	Streaming Wake Word (SWW)	6 / 4
NUCLEO-U575ZI-Q	Streaming Wake Word (SWW)	6 / 4
NUCLEO-U575ZI-Q_60MHz	Streaming Wake Word (SWW)	6 / 4
NUCLEO-H7A3ZI-Q	Streaming Wake Word (SWW)	6 / 4
NUCLEO-H7A3ZI-Q_40MHz	Streaming Wake Word (SWW)	6 / 4

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)**
- ☑ **Yes (Streaming Wake Word ...FP ≤ 8, FN ≤ 8)**

- ❏ 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:

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 v10.2.0**

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

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**