SpeechRecognition

Performance Report

2017-01-02

OPEN AI LAB

Revision Record

Date	Rev	Change Description	Author
2017-10-21	0.1.0	Initial version	Lin Feng
2018-01-02	0.1.1	Add average performance	Lin Feng

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1 Purpose

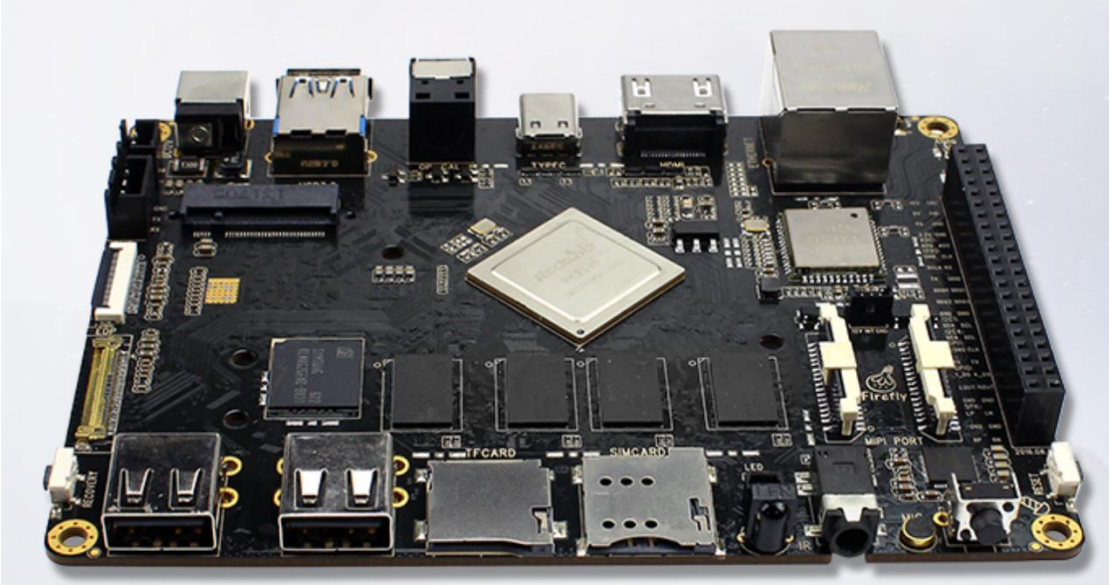
This Report is tested on RK3399 platform. It only contains CPU data.

2 Test Environment

Hardware SoC : Rockchip RK3399

- GPU: Mali T864 (800MHz)
- CPU: Dual-core Cortex-A72 up to 2.0GHz (real frequency is 1.8GHz); Quad-core Cortex-A53 up to 1.5GHz (real frequency is 1.4GHz)

Operating System : Ubuntu 16.04



3 Performance on Different Cores

This demo supports total 100 commands which are listed in command_list.md. Calculate the average RTF(Real Time Factor, T_{decode} / T_{record}) of ten times with various speech length and content, and print the result in terminal. It only supports single core on CPU.

	Real Time Rate
1A72@1.99G	1
1A53@1.51G	2.9

A more accurate performance data is added, the avg-RTF is average performance of 100 records. The detail as follow.

	average Real Time Rate
1A72@1.99G	0.71
1A53@1.51G	1.36

4 Accuracy

WER (Words Error Rate) on test set (indoor, low noise). Get the test set from ftp://ftp.openailab.net/CR_resource/command_recognition.tgz .

Speaker	Words Error Rate (%)
A003	20
A012	7.27
B002	1.36

5 Conclusion

From the above test cases, we can deduce that :

1. The performance on A72 is better, it 3-time faster than on A53.
2. For different speakers, the WERs changed from 1.4% to 20%.