

DDR Overclocking on XU4

A new higher DDR frequency is now available on XU4 series. Both Android and Ubuntu supports the Frequency set, and only Android provides DRAM Governor interface.

- Android : Available with Android 4.4.4 v4.9 (17 May, 2017) or higher version
- Ubuntu : Available with Ubuntu (22 May, 2017) or higher version

Android Guide

On Android, you can adjust DDR Frequency and Governor using a new **ODROID Utility**.

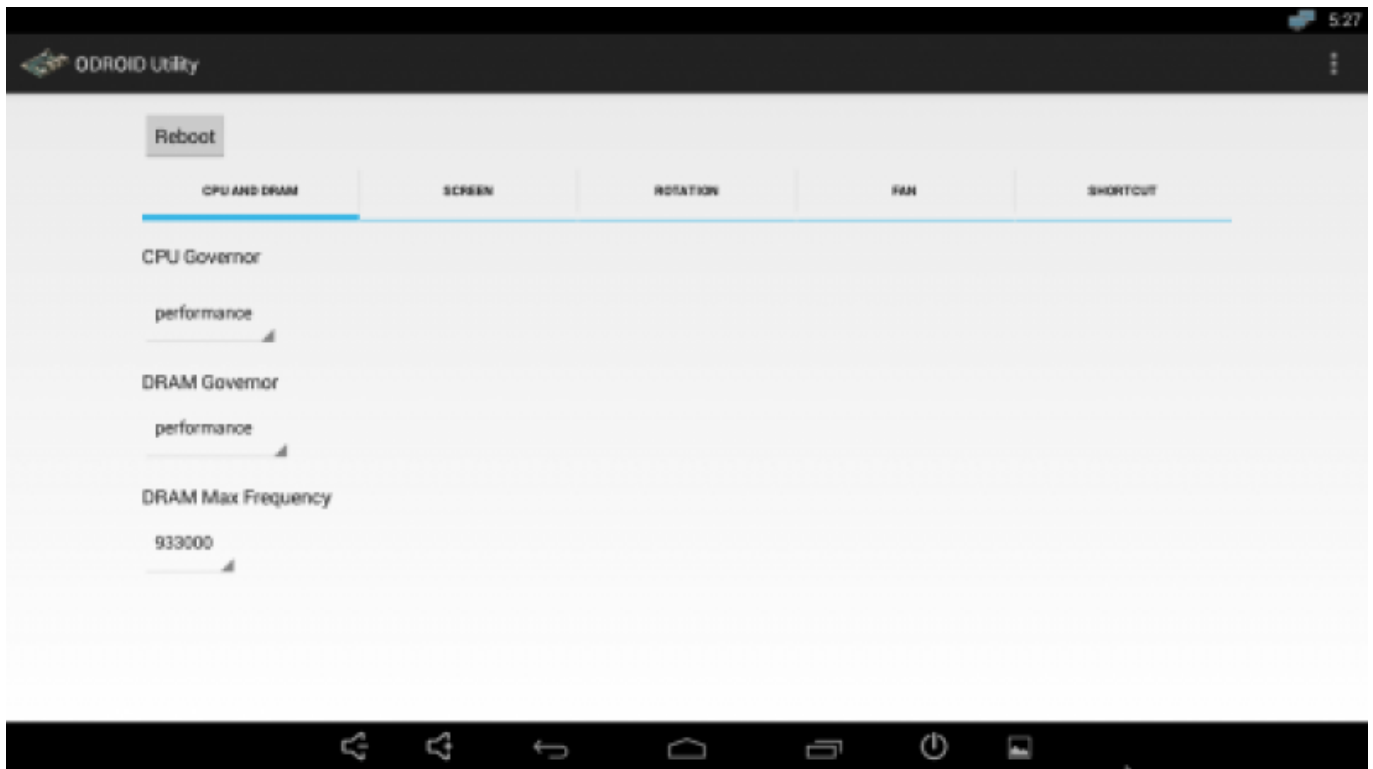
Governor

```
$ cat /sys/class/devfreq/exynos5-devfreq-mif/available_governors
simple_exynos performance
```

Frequency

```
$ cat /sys/class/devfreq/exynos5-devfreq-mif/available_frequencies
165000 206000 275000 413000 543000 633000 728000 825000 933000
```

ODROID Utility has been updated with the new release version. You can change devfreq governor and frequency using it.



Ubuntu Guide

On kernel 4.9 and 4.14.y, you can change ddr frequency using boot.ini interface.

The available frequency set is **933MHz, 825MHz, 728MHz and 633MHz**

and the default one is **825MHz**.

As we check the benchmark score using **mbw**, about 10% improvement can be expected.

boot.ini

Please find **ddr_freq** in boot.ini and change the value.

```
...  
# DRAM Frequency  
# Sets the LPDDR3 memory frequency  
# Supported values: 933 825 728 633 (MHZ)  
setenv ddr_freq 825  
...  
# set DDR frequency  
dmc ${ddr_freq}  
...
```

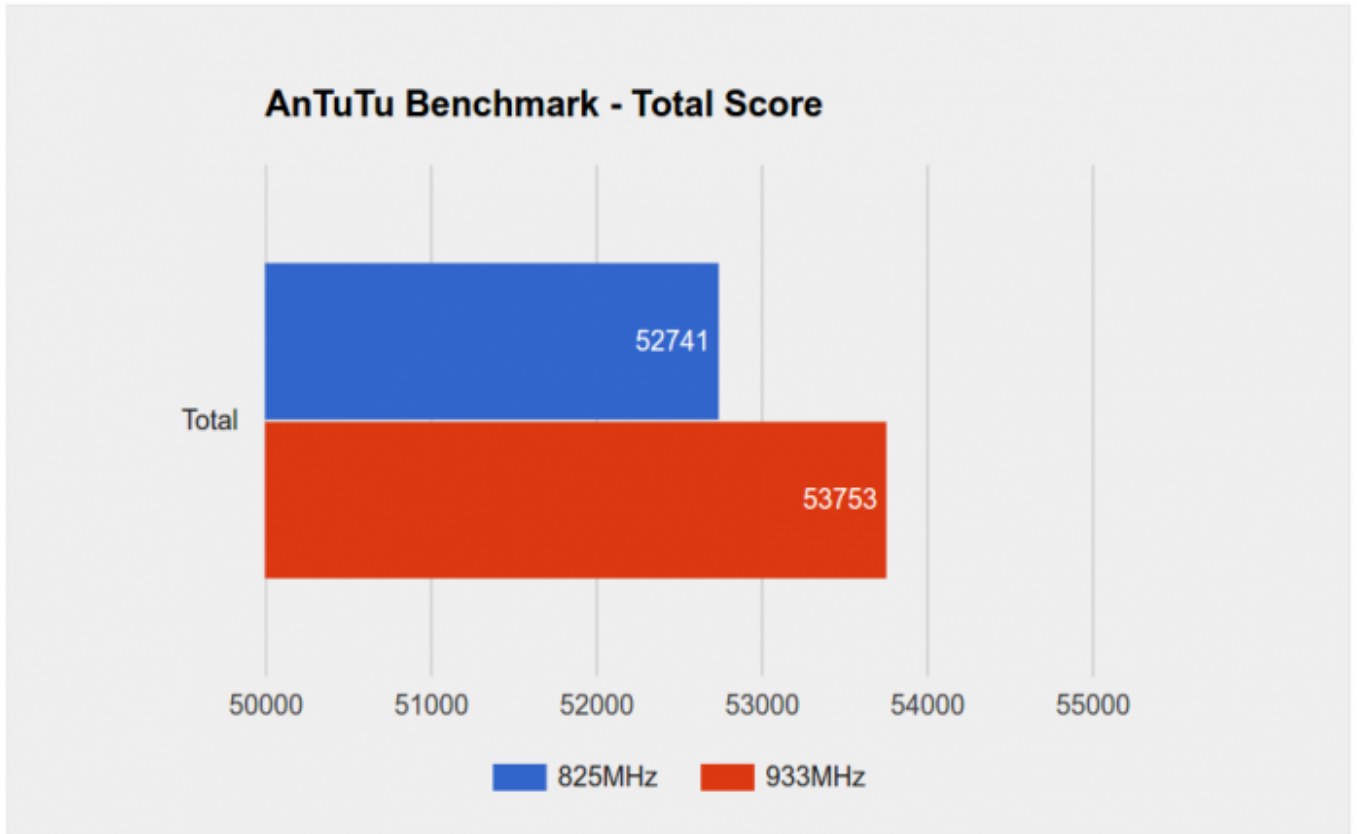
Then please make sure to reboot the system.

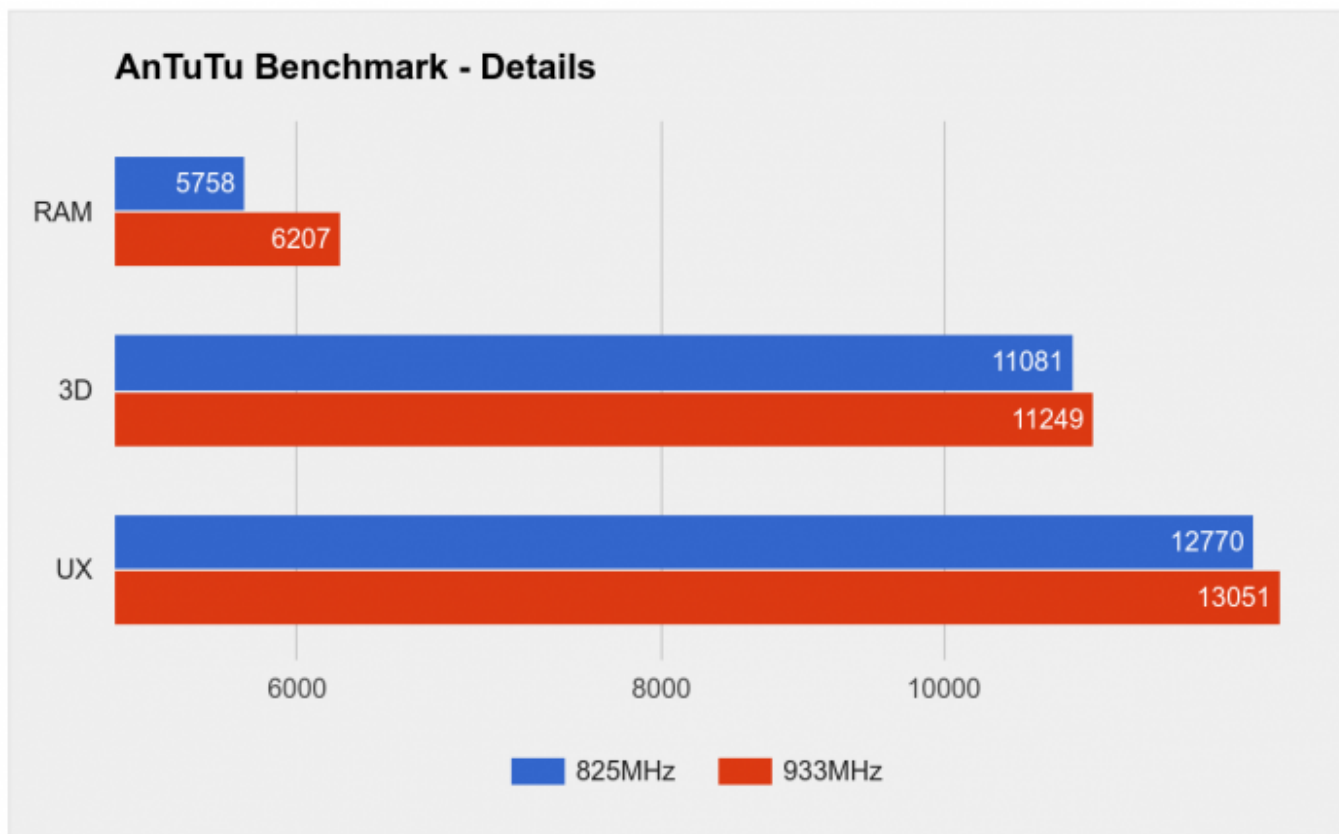
```
# sudo reboot
```

AnTuTu Benchmark Score

Here is an [AnTuTu](#) benchmark score.
We checked the following two cases.

- Case 1 : cpu governor - performance / devfreq governor - performance / devfreq clock - 825MHz
- Case 2 : cpu governor - performance / devfreq governor - performance / devfreq clock - 933MHz





	Total	3D	UX	RAM
825MHz	52741	11081	12770	5758
933MHz	53753	11249	13051	6207

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