

# Evaluate the Snapdragon 870 gaming performance on Redmi K40

Redmi K40 uses Qualcomm's newly launched Snapdragon 870 chip, so what is its experience with popular games?

On February 25, Redmi - the sub-brand of Xiaomi has officially launched the Redmi K40 series in China, including the Redmi K40, K40 Pro and K40 Pro +. Instead of using the same Snapdragon 888 processor as the K40 Pro and K40 Pro +, the standard K40 version is powered by Qualcomm's recently launched Snapdragon 870 chip.



**Redmi K40 with Snapdragon 870 processor and Adreno 650 GPU.**

Snapdragon 870 is considered as an overclocked version of Snapdragon 865, manufactured on 7nm process and has eight cores like SD865 and SD865 +. The chip still uses ARM's Cortex-A77-based Kryo 585 core, but has a maximum clock speed of up to 3.2 GHz - about 10 percent higher than the SD865 (up to 2.84 GHz) and 3 percent higher than the SD865 + (max. 3.1 GHz multi-core).

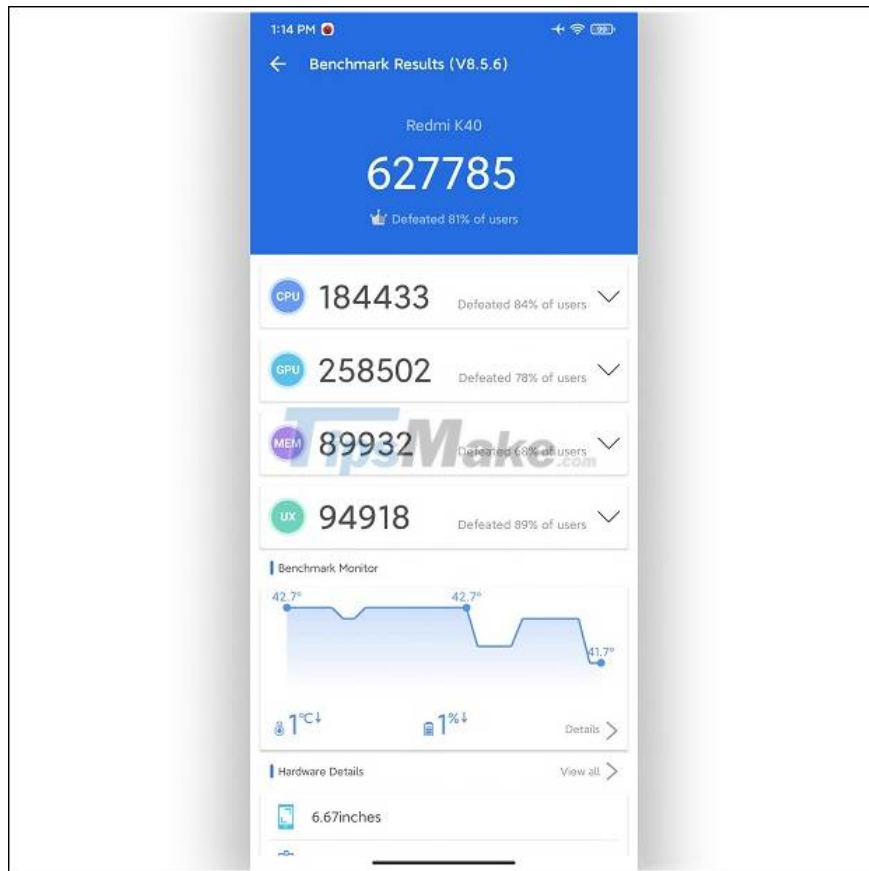
In terms of graphics processing power, the Snapdragon 870 comes with Adreno 650 GPU and has a 670 MHz clock speed similar to the Snapdragon 865+. Besides, it also integrates 5G Snapdragon X55 modem, supports mmWave and sub-6GHz.



It is equipped with 6.67 inch AMOLED E4 screen, Full HD + resolution and 120Hz refresh rate.

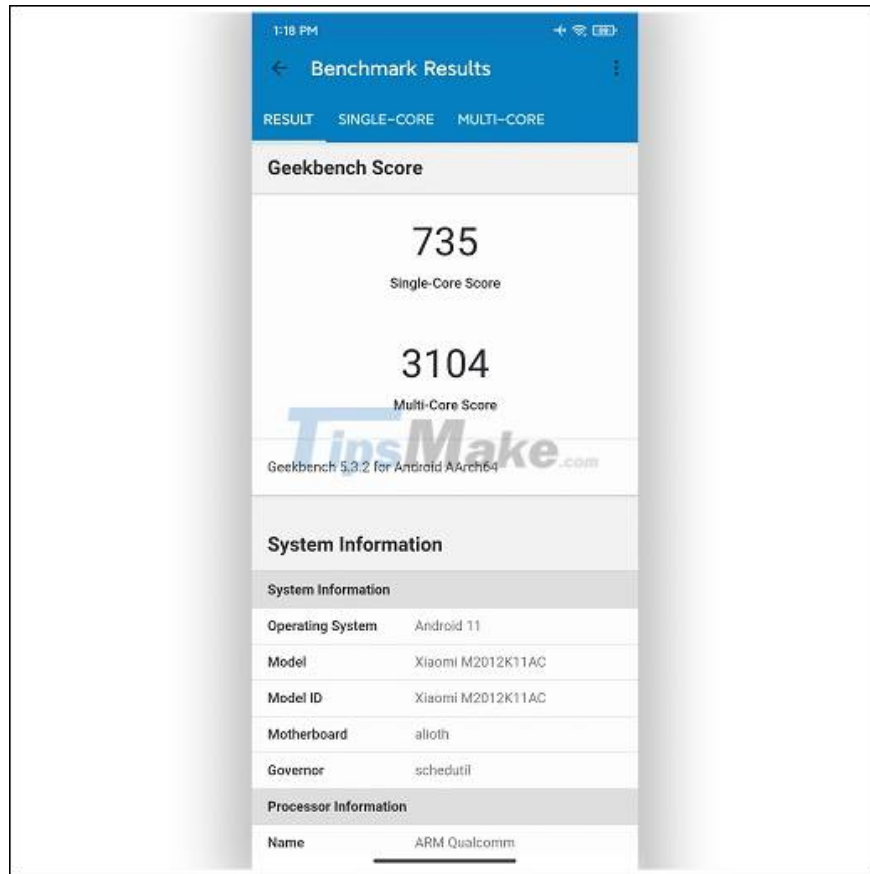
In this article, we will perform some tests to evaluate the gaming performance of Redmi K40. The first is the benchmark test using 3 of the most popular performance scoring software today - AnTuTu, Geekbench and 3DMark.

**AnTuTu:** 627,785 points, including 184,433 CPU points, 258,502 GPU points, 89,932 Memory points and 94,918 UX points (User Experience).



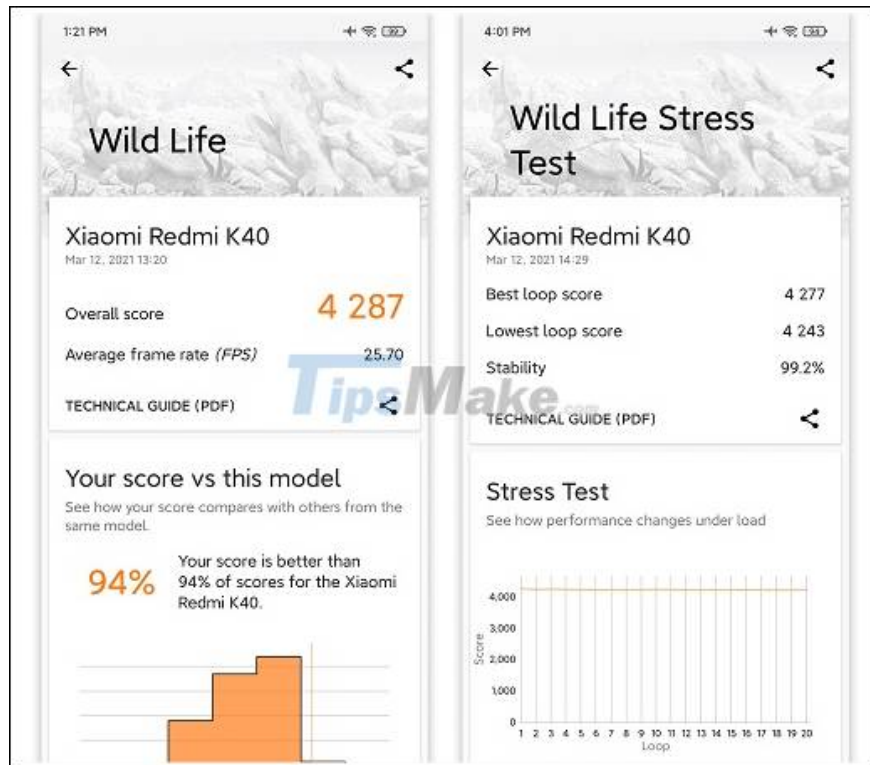
Redmi K40 scored 627,785 AnTuTu, higher than Mi 10 (562,445 points) and lower than Mi 11 (687,516 points).

- **Geekbench:** 735 points single-core and 3104 points multi-core (CPU).



For Geekbench, the handset scored 735 single-core and 3104 multi-core points.

- **Benchmark GPU with 3DMark Wild Life:** Highest 4287 points, lowest 4243 points, average FPS of 25.7, stability is 99.2%.



The Redmi K40 scored an overall score of 4287 in 3DMark's Wild Life test, with 99.2% stability.

In the next part, we will try to play 4 hot games currently are League of Legends: Speed ??Chien, Lien Quan Mobile, PUBG Mobile and Genshin Impact. The number of frames per second (FPS) in the game will be displayed in the upper left corner of the screen. In addition, we also use PerfDog software to monitor FPS during game play.

### League of Legends: Rapid War

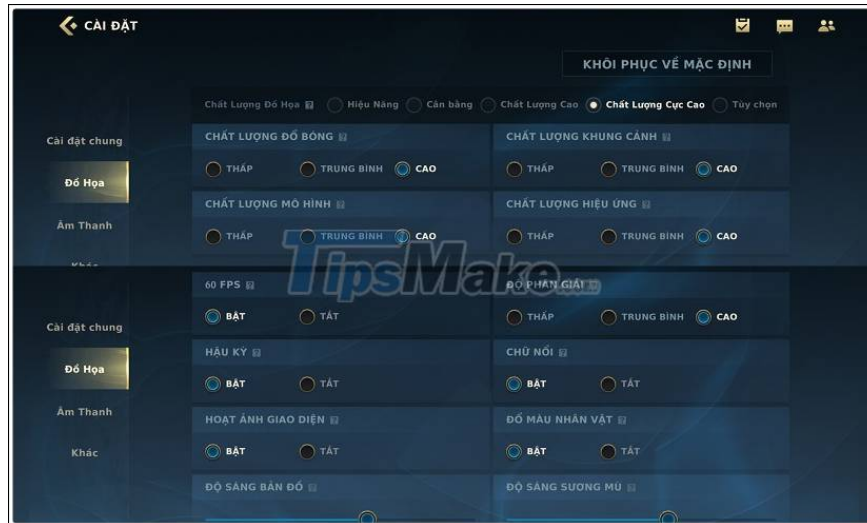
The first test started with League of Legends: Speed ??Chien, the famous mobile moba game of Riot Games. This is also one of the games that will probably be interested by a lot of young people, using it as criteria for choosing smartphones at the present time.



At the highest graphics level, the Redmi K40 can easily achieve 60 FPS.



During the game, the frame rate remained stable at 60 - 61 FPS.



Parameter settings of League of Legends game: Speed ??War is used in the test.

Redmi K40 can achieve 60 FPS when playing League of Legends game: Speed ??War at the maximum graphics settings (all settings are high, turn on "Post-production" and "Interface Animation" ). The frame rate is always stable in the range of 60 - 61 FPS (average ~ 60.5) even in the fighting phase, not even dropping to 59 FPS.



FPS chart when playing League of Legends: Speed ??War at the highest graphics level on Redmi K40.

**Arena of valor**

Launched at the end of 2016, Lien Quan Mobile still has an extremely large number of players and is one of the favorite games of many young people today.

Like League of Legends: Speed ??War, this game does not require much graphics or too high hardware configuration. Instead, players need a good, constant and stable network connection to avoid lagging, disconnection while playing games.



For Lien Quan Mobile, Redmi K40 easily achieves 60 FPS at the highest graphics level.



Frame rate was stable at 60 - 61 FPS throughout the match.



Parameter settings of the game Lien Quan Mobile are used in the test.

Redmi K40 users can set parameters in Lien Quan Mobile game at max setting (including "High FPS" , "HD Resolution - Super High" , "Image Quality - HD" and "Quality). amount of detail - High ").

During the process of playing Lien Quan Mobile, the machine for FPS was extremely stable. Statistics from PerfDog software show that the average frame rate that Redmi K40 achieved when playing this game was 61.5 FPS.



FPS chart when playing Lien Quan Mobile at the highest graphics level on Redmi K40.

## PUBG Mobile

The third test continues with PUBG Mobile, the mobile version of the popular PC game PlayerUnknown's Battlegrounds. Compared to League of Legends: Speed ??Chien and Lien Quan Mobile, it can be said that PUBG Mobile is "heavier" than a lot and requires quite high hardware configuration.

With Snapdragon 870 processor equipped on Redmi K40, PUBG Mobile game allows players to set the graphics at a maximum of "Graphics - Ultra HD" and "Frame Rate - Ultra" (limited to 40 FPS).



The highest graphics level of PUBG Mobile can be set on Redmi K40.



When "Frame Rate" is set to "Ultra", the frame rate in the game is limited to 40 FPS.

Although the Redmi K40 is equipped with a 120Hz display, even when the *Graphics (Image Quality)* is set as low as *Smooth*, the *Frame Rate* is still limited to 60 FPS (*Extreme*).

To get the highest FPS with the best graphics, we'll set *Graphics* at the highest possible *HDR* and *Frame Rate* to *Extreme*.



PUBG Mobile game settings are used in the test.



Once the map has downloaded, the Redmi K40 starts with 60 frames per second.



When parachuting, the frame rate of the game ranges from 59 - 60 FPS.



After landing and throughout the match, FPS remained stable at 58 - 61 FPS.

Redmi K40 performed extremely impressively with PUBG Mobile, giving a stable frame rate of 58-60 FPS and no lag during the match.

Statistics from PerfDog software show that the average frame rate of this phone achieved when playing PUBG Mobile at "Graphics - HDR" and "Frame Rate - Extreme" is 59.8 FPS.



FPS graph when playing PUBG Mobile at HDR - Extreme graphics level on Redmi K40.

## Genshin Impact

The final test is Genshin Impact, an open-world action-adventure RPG developed by miHoYo, released last September. Due to owning a high-quality graphics platform, this game requires the device to have relatively

good performance and is quite demanding - if not the "hardware killer" for smartphones.



Graphics settings are set to max setting - Highest and 60 FPS.



Once the map has loaded, the Redmi K40 starts with 60 frames per second.



The frame rate in the game changes continuously, but is quite stable and remains at 50 - 60 FPS.



With some scenes with many effects, the machine dropped to 20 - 30 FPS but was up quite quickly.

Compared to the previous 3 games, Redmi K40 is much hotter when playing Genshin Impact. Even so, the device still gives a pretty good and stable experience. Statistics from PerfDog software show that the average frame rate during 12 minutes of continuous movement and combat is 51.7 FPS.

By comparison, it can be seen that Redmi K40 performed slightly better than Xiaomi Mi 11 when playing Genshin Impact. The machine operates more stably, cooler, no drop fps, and the average frame rate is also higher (51.7 FPS vs. 46.7 FPS).




FPS chart when playing Genshin Impact at the max graphics setting on Redmi K40.

## Conclusion

With the Snapdragon 870 processor, the Redmi K40 can completely "max setting" the popular games today, from the average level such as League of Legends: Speed ??War and Lien Quan Mobile, to games requiring high configuration. like PUBG Mobile and Genshin Impact.

However, the Redmi K40 has not been able to "take advantage" of the 120Hz screen because the Snapdragon 870 is still new and has not been fully optimized - limited to 60 FPS for some games with screen support. high frequency sweep. However, this chip works quite stable and does not overheat like the Snapdragon 888 on the Xiaomi Mi 11.

<input type="checkbox"/> Project	Device	Case	Avg(FPS)	Jank (/10min) ?	BigJank (/10min) ?
<input type="checkbox"/>  <b>Genshin Impact</b> Android VersionName 1.3.0_1825294_... Android VersionCode 152 com.miHoYo.GenshinImpact	M2012K11AC	Redmi K40	51.7	26.5	14.5
<input type="checkbox"/>  <b>Liên Quân Mobile</b> Android VersionName 1.38.1.3 Android VersionCode 49830464 com.garena.game.kgvm	M2012K11AC	Redmi K40	61.5	0	0
<input type="checkbox"/>  <b>LMHT: Tốc Chiến</b> Android VersionName 2.1.0.3851 Android VersionCode 385164 com.riotgames.league.wildriftvn	M2012K11AC	Redmi K40	60.5	0	0
<input type="checkbox"/>  <b>PUBG MOBILE</b> Android VersionName 1.3.0 Android VersionCode 14895 com.tencent.ig	M2012K11AC	Redmi K40	59.8	0	0

### FPS parameters when playing games on Redmi K40.

With prices starting from 1999 yuan for 6GB RAM + 128GB ROM version, it can be said that the Redmi K40 is one of the performance smartphones on the best price today.

Besides, this is also a quite reasonable choice for those wishing to find a gaming smartphone in the segment of about VND 8 million. In addition to strong performance, the Redmi K40 also has good display quality with an AMOLED E4 screen with a refresh rate of 120Hz, four rear cameras, long battery life and 33W fast charging technology.

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