LATEST SMARTPHONES, TABLETS & WEARABLES

ANDROID ADVISOR

ISSUE 28

FROM IDG

COMPLETE GUIDE TO Pokémon GO

Galaxy Note 7 countdown

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Welcome...

While half of Europe were tuning in for the Euro 2016 final between France and Portugal, the other half were out and about trying to catch Pokémon. An augmented reality mobile game, Pokémon Go hit Australia, New Zealand and Japan at the beginning of July, but incredible demand resulted in server problems that delayed the global rollout. It's available in the UK now and in our complete guide on page 4, we reveal everything you need to know.

The other big news as we were going to press was the impending Samsung Galaxy Note 7, due to make an appearance on 2 August. Wondering what happened to the Note 6? Wonder no more: we explain all about the Note 7 on page 13.

We've spent the past month or so playing with the fantastic new OnePlus 3. Read our verdict on page 23, followed by coverage of some of the best new Android devices including the Sony Xperia X and XA, Xiaomi Mi Max and Moto G4 Plus.

We hope you've enjoyed this issue. Send us your feedback via **facebook.com/AndroidAdvisorUK** or email **marie_brewis@idg.co.uk**.

Feature: Pokémon Go

Chris Martin's guide reveals everything you need to know

Pokémon Go fever is sweeping the world as the augmented reality app rolls out. Aside from a few basics, the game doesn't really tell you how to play, so we've put together this guide to answer your answers from explaining PokéStops to finding rare Pokémon.

PokéStop

All over the Pokémon Go map you'll see blue makers. These are PokéStop and each one is a landmark in real life. Almost anything can be a

PokéStop from a plaque on the wall to a statue or an entire building.

You'll need them to gain resources, so when you're near one, click on it and spin the icon. You'll receive items such as Pokéballs, Potions and Revives. Once used, a PokéStop will turn pink but wait five minutes and you'll be able to use it again. You also get 50 XP points for each use, which is a bonus. PokéStops are the best way of getting more Pokéballs, but you can also buy them in the shop.

If a PokéStop has petals coming out of it, then someone has used a Lure Module on it and wild Pokémon will be attracted to the location for 30 minutes – it benefits all trainers.

Pokémon Gym

On the Pokémon Go map, gyms are the larger and more elaborate markers and also use real-life landmarks. They work differently to the normal games though, so there's no AI gym leader and no gym badges to collect either.

To visit a Pokémon Go Gym, your character must have reached level 5, and if it's the same colours as your team you can store Pokémon there to become a Gym Defender (or train to gain XP and increase the gym's prestige points if there's no space). Once you are, you'll receive a Defender Bonus – head to the shop, then click on the shield to get free PokéCoins and Stardust. As long as you haven't been defeated by someone, you can check back every 20 hours to get more free stuff.

If the gym isn't your team's colour, you'll need to battle the Gym Defender to take it over. Gym Battles are not turn based like normal Pokémon

but you also can't spam moves. Tap the screen to attack and swipe to the sides to dodge attacks. Once the meter under your Pokémon's health bar is full you can use its special attack.

When you defeat the gym's Pokémon you lower its level and prestige, when it hits zero the gym is defeated and can be claimed – be quick because if the player(s) you just defeated are nearby they can jump back on the gym when it's neutral.

Once you have a gym you can raise its level of prestige by training – essentially fighting your own Pokémon to create more spaces for Pokémon and therefore make it harder to defeat.

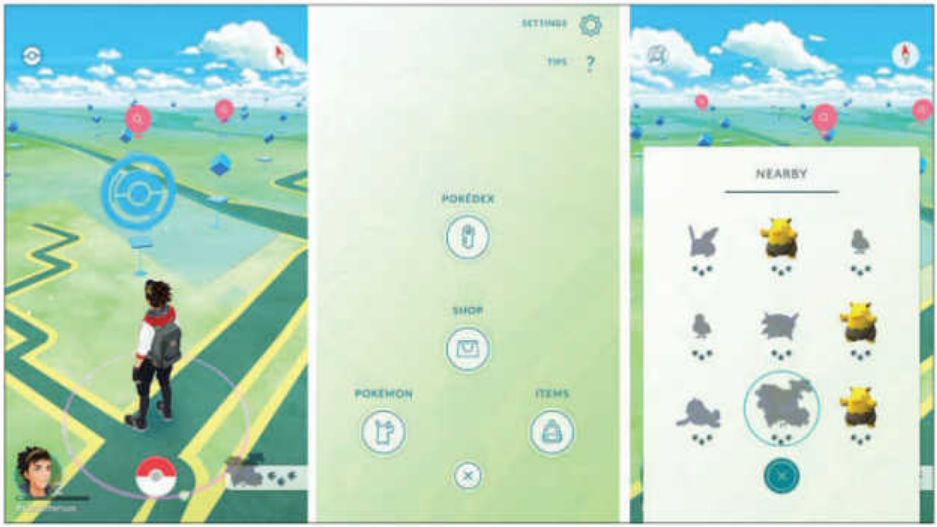
How to find Pokémon

Pokémon Go somewhat mimics the traditional games, so you are more likely to find Pokémon in areas such as parks and you'll be more likely to find water Pokémon when you're near, well, water.

It's not limited to those areas though, and you can find Pokémon no matter where you are. There should always be at least a handful nearby.

Nearby Pokémon are displayed on the bottom right corner of your smartphone's screen. Tap it and you'll see silhouettes of any Pokémon you haven't seen yet. The footprints underneath each one indicate how far away they are from you – choose a particular one to track it. Once the footprints are all gone the Pokémon is very close and you can stop and wait for it to appear.

If you're struggling to find Pokémon you can use Incense – you'll have two of these in your Items when you start the game. After use, Pokémon will be attracted to your location for 30 minutes. You



can also buy Lure Modules from the shop. Make sure you click on the stop you want to use one on first as you can't go straight to items.

How to catch Pokémon

You'll need Pokéballs to catch Pokémon – flick them towards the creature you're trying to catch. The colour of the ring indicates how hard the catch will be – green is easy, yellow is intermediate and red is hard. You'll notice that the ring gets smaller in a looped animation – landing the Pokéball when it's at its largest is the aim. To make a catch easier you can use Razz Berries and better Pokéballs also feature in the game – Great Balls, Ultra Balls and Master Balls.

Should you catch duplicate Pokémon?

In a word, yes. Not only will catching duplicate Pokémon gain you more XP, you'll get additional

Stardust and Candy for that Pokémon – the latter you'll need to evolve Pokémon.

Number of Pokémon

There are 151 Pokémon to catch which matches the original number of the Red and Blue versions. However, not all have been seen yet including Ditto, Mew, Mewtwo, Zapdos, Moltres and Articuno. They are in the source file for the app, though.

Finding the rarest Pokémon

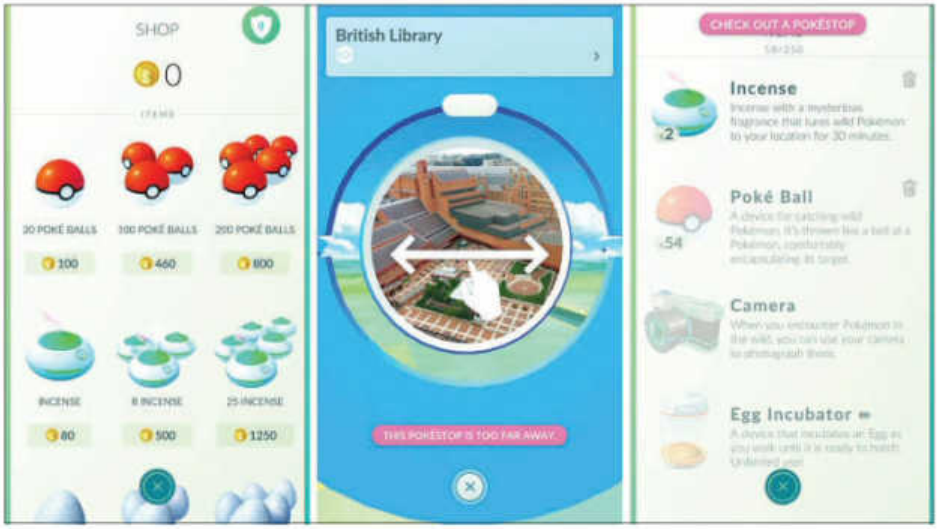
You might think that you'll need to splash out on some long haul flights, climb mountains and explore rainforests to find the rarest Pokémon but that's fortunately not the case. Instead, the Pokémon you find in the game will change based on your personal level. The higher level you are, the more likely you are to find rare Pokémon.

Stardust and Candy

In Pokémon Go it's a bit confusing as to what these are for. Stardust is used only for powering up your Pokémon to increase their Combat Power. Candy is used both for powering up and evolution. Neither are available to buy from the shop so you'll need to gain them by catching Pokémon. You can also get Candy by hatching Pokémon.

How to train a Pokémon

Instead of battling to train and level up Pokémon things are a bit simpler in Pokémon Go. Each creature has a CP (combat power) – the higher this is the better. Using a combination of Stardust and Candy you can power up to increase the CP



number. The only other thing you can do to make a Pokémon more powerful is to evolve it.

How to evolve a Pokémon

To evolve a Pokémon you'll need to trade in the correct amount of candy for that type. Catching duplicate Pokémon gets you three each candy and then transferring it gets you another one. Four candy for each duplicate is very valuable.

When you have enough candy, choose which Pokémon you want to evolve and click Evolve. Your Pokémon will then be fully healed and new moves will be selected at random.

Gain XP and level up

There are lots of things you can do to gain XP, indeed, most things will give you XP apart from walking. Using PokéStops, catching Pokémon and being awesome at throwing Pokéballs are all good.

As well as the breakdown below, consider using Lucky Eggs to level up faster. When activated you'll gain double XP for 30 minutes – so save things such as evolutions, Incense and Lure Modules for when you are going use one.

Here's a breakdown of XP in Pokémon Go:

Catch a Pokémon: 100 XP
Evolve a Pokémon: 500 XP
Hatch an egg: 200 XP
Visit a PokéStop: 50 XP
Catch a new Pokémon: 500 XP
Excellent throw: 100 XP
Great throw: 50 XP
Nice throw: 10 XP
Curve ball: 10 XP

Hatch eggs

In Pokémon Go, eggs don't hatch on their own – you'll need to put them in an incubator. You can put only one egg in an incubator at a time – you'll find one in Items at the start of the game.

Each egg has a distance in km associated to it, and you'll have to walk this far before it hatches. Note that you'll need the app open and running for it to record any distance covered – it uses a combination of GPS and your device's pedometer to track. Before you get any ideas, you can't go around in a car or other

vehicle to trick the system. When the distance is reached, your egg will hatch and you'll have a new Pokémon – we've seen everything from a Weedle to a Charmander. Pokémon from eggs tend to have higher CP and batter moves than wild ones.

Battery saver

The battery saver is a must for Pokémon Go players since the app is a big batter drainer due to its use of the screen, data and GPS. Access and switch on the battery saver in the setting menu and once it's on you can leave the app running to gain distance (for eggs) and get notifications for when Pokémon are nearby. Turning your phone upside down will switch the screen off, so you can still play while walking around without being glued to the screen.

Pokémon Go Teams

Once you reach level 5, you'll need to decide which team you should join:

Team Instinct (Yellow) Zapdos: Believes you will never lose when you trust your instincts.
Team Mystic (Blue) Articuno: Studies Pokémon evolution.
Team Valor (Red) Moltres: Values training and true strength.

Which team you choose doesn't appear to affect the gameplay so the real difference is in the gyms. If there are gyms nearby of a certain colour you can join them if there's a space. However, if they are a different colour then you need to battle that gym to take it over.

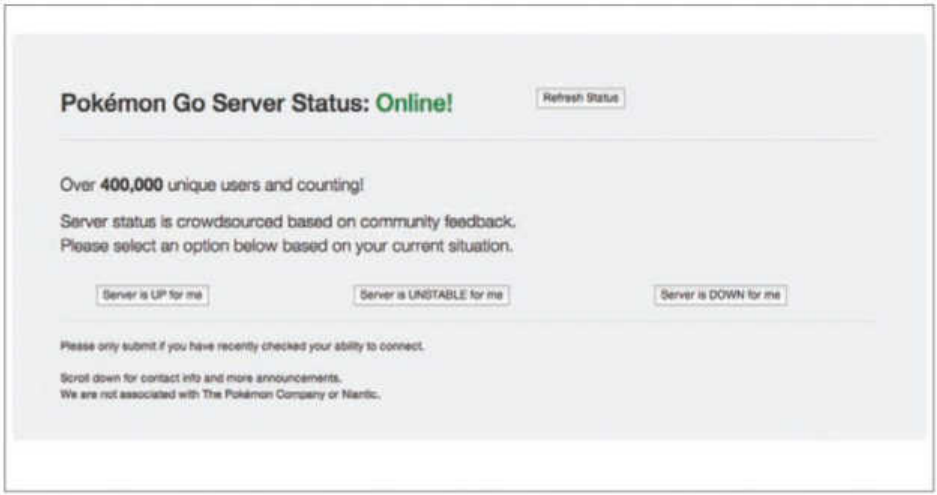
Our recommendation is that you pick the same team colour as your friends so you can help each other defeat and then defend gyms.

Exit Pokémon Go

If you've had enough for the day or the Pokémon Go app has crashed, you can't just keep hitting back to quit. You'll need to open recent apps and then quit the app. If it's crashed then you can now reopen to log in again.

I can't access Pokémon Go: 'Our servers are experiencing issues. Please come back later' error Pokémon Go is proving extremely popular (it's almost overtaken Twitter for daily active users already) so the servers are taking a bit of a battering. If you see the above message when trying to play, try quitting the app and opening it again.

You can also check the status of the Pokémon Go servers at cmmcd.com/PokemonGo.



Feature: Samsung Galaxy Note 7 countdown

The Note 7 is set to be released this summer. **Marie Brewis** looks at what we can expect from Samsung's latest handset

The Samsung Galaxy Note series is returning to the UK on 2 August with the new Note 7. It appears that Samsung is skipping the Galaxy Note 6 in order to bring the naming of its flagship phablet in line with that of its flagship smartphone family, the S series.

The Korean company seems to be copying more than the name, though. Having dropped the Edge+ model from its S series, it's widely tipped to be announcing a curved-edge model. It will be a

larger device than the S7 and S7 Edge, and come with Samsung's S Pen stylus.

Hardware

Rumours suggest there will be several versions of the Note 7 including for the first time a 'Lite' model and an updated Note Edge. According to a source on Weibo, the Note 7 Lite will feature a lower-resolution full-HD display, the Qualcomm Snapdragon 820 processor in place of the 823, and 4- rather than 6GB of RAM.

We're not convinced, however. The rumours are much stronger around the theory that there will be just one standard Note 7, but with a dual-curved edge, rather than a trio of devices. Plus, if Samsung really is bypassing the Note 6 for the Note 7 in order to avoid brand confusion, and working to introduce a streamlined design across all its smartphone families (even down to the A series), it wouldn't make sense to suddenly introduce a Lite version. Samsung is known for ensuring its new flagships obliterate the competition in benchmarks – anything but the best won't be worthy of the Galaxy Note name.

Price

Based on Samsung's previous strategy, we'd expect to see a new Galaxy Note 7 come in between £600 and £650, with an RRP of around £630 most likely. It will almost certainly be available SIM-free direct from Samsung, Amazon UK, eBay and the like.

If you'll be looking to buy the Note 7 SIM-free, note that Samsung Galaxy smartphones tend to drop in price by around 20 percent within the

first few months. If you wish to get the Note 7 on contract, the best deals will likely cost around £45 to £50 per month. You'll almost certainly be able to pick it up from the UK's major mobile operators Vodafone, EE, Three and O2, as well as the likes of Carphone Warehouse.

Note 7 model number: SM-N930F

Samsung appears to have accidentally confirmed the existence of a new Note smartphone on its website. A User Agent (UA) Profile page has surfaced for a phone going by the model number 'SM-N930F', and logic dictates that this must be the new Note 7 given that the Note 4 is SM-N910 and the Note 5 SM-N920.

Design

Sammobile has confirmed that the new Note 7 will, in common with the new Galaxy S7, feature IP68 certification. This means it will be waterproof up to 1.5m for up to 30 minutes, and dustproof.

@evleaks backs up this claim, and adds that the Note 7 will be available in black, silver and blue. More recently, he has leaked press renders (see opposite) of the Note 7 that show it in Black Onyx, Silver Titanium and Blue Coral.

We've heard rumours that it will feature a very similar design to the previous Note and Galaxy S flagships, with a mix of glass front and rear and strong metal frame. We wouldn't be surprised Samsung to make the Note 7 more curvier at the rear as it has done with the new Galaxy S7.

The fact there will be an edge model has been leaked all over the place – most recently in this short clip from @OnLeaks. It's becoming increasingly apparent, though, as we have mentioned, that this edge model will be the only new Note 7 coming our way.

uSwitch has also offered the following concept video and writes: "Leaked blueprints of the Samsung Galaxy Note 6 have given us our first-ever look at the phone and confirmed some key features, ahead of its anticipated debut in August or September.

"Sourced exclusively for uSwitch by @Onleaks, AKA Steve Hemmerstoffer of Nowwhereelse.fr, the blueprints reveal that the handset will feature a design that's almost identical to the Galaxy S7 Edge, albeit with an aperture for the stylus pen that defines the Note range."

Note that @OnLeaks believes this to be the standard Note 7 rather than the Note 7 Edge, and says a separate Note 7 Edge model seems unlikely.

(The image renders scattered throughout this article are also via uSwitch.)

Case renders

MobileFun sent across some Olixar case renders (shown below) for the upcoming Galaxy Note 7, which are available here for £17.99.

Display

According to @evleaks the new Note 7 will feature a 5.7in Quad-HD SuperAMOLED panel. We expect that there will be an always-on display, since the company already has the tech, as implemented in the Galaxy S7.

The most outrageous claim we've seen is that the Note 7 will have a 6in 4K screen (via Weibo). We've seen 4K before in the Sony Xperia Z5 Premium, but it hardly set the world alight and places extra strain on the core hardware. The idea that the Note 7 will have a larger 6in has since been backed up by India's import and export tracking site Zauba, however.

The curved edge looks much less rounded than on the Note Edge, leading us to believe it

will be closer to the S7 Edge (except larger and more powerful).

Performance

Two processors are rumoured for the Galaxy Note 7: the Exynos 8890 and the Qualcomm Snapdragon 823. It is possible there will be a variation of the Note 7 with the Exynos chip and another with the Qualcomm processor, since Samsung has just done exactly this with the Galaxy S7. We'd expect to see the Exynos 8890 variant in the UK.

More exciting is the new Note 7 could be one of the first mainstream phones to feature a huge 6GB of RAM, which should lead to unparalleled performance in benchmarks.

Unfortunately, the validity of both these claims is questionable. They appear to stem from a CPU-Z screenshot sent into Phone Arena (pictured below), which has since itself admitted that the screenshot is most likely a fake.

microSD

The Note 7 will support microSD too, according to @evleaks, who says the Note 7 will get 64GB of storage plus microSD support.

It makes sense, too: Samsung has appeared to have learned from some of its past mistakes, returning the Note series to the UK and reintroducing the waterproofing and microSD support to the Galaxy S7. We know that the waterproofing is also coming to the new Note 7, so why not also the microSD support?

According to Trusted Reviews, Samsung might also include its UFS 2.0 memory chips in the Galaxy Note 7. That would put 256GB of hyper-fast storage at the disposal of Note users.

Battery

The Note 5 has a 3000mAh battery, but if Samsung is about to pile on the performance it also needs to keep fans happy and improve the battery capacity. (We don't think it will go down the removable battery route, because it just doesn't work with that glass and metal design.)

The aforementioned Phone Arena source suggests there will be a 3700mAh battery inside the new Note 7. Another source at Weibo (the same source who suggested there would be a 6in 4K screen), says it'll be a 4000mAh battery. We're not inclined to believe either, but we do think Samsung will increase the capacity from the Note 5.

Camera

We're not massively convinced by that Weibo source's claims so far, but something they do say

that sounds a lot more likely is that there will be a 12Mp camera with Super OIS Plus. Samsung implemented a 12Mp camera in the Galaxy S7 earlier this year, and it would make sense that it would use a slightly tweaked version of the same camera.

@evleaks has also said the new Note 7 will get a 12Mp dual camera, and a 5Mp camera at the front.

We've seen a 20Mp camera rumoured too, but someone always pipes up and says 20Mp when it comes to Samsung phone launches. It sounds like a great number, but phone makers are rapidly learning customers are no longer going to be fooled into thinking the number of megapixels is the most important attribute of a camera phone.

The latest rumours we've heard suggest the new Note 7 will get a dual-lens camera (which is also what's being rumoured for the upcoming iPhone 7 Plus with which it will compete).

New Note 7 extra features: S-Pen, fingerprint scanner, heart-rate scanner, iris scanner

We'd be amazed if the Note 7 didn't come with an S-Pen stylus, fingerprint scanner and heart-rate scanner. Sammobile and @evleaks both say there will be a new iris scanner – it's spotted an iris cam being imported into India, labelled up as 'parts for Samsung Mobile'. And what

would the company implement an iris scanner on other than its next flagship?

More evidence to back up the iris scanner theory comes from recently filed trademarks by Samsung for 'Samsung Iris' and 'Samsung Eyeprint' in Europe.

Software

Some people are saying the Note 7 will come with Android Nougat out of the box, but we've been unable to trace the source and it sounds like rubbish to us. Although the Android N Developer Preview was announced earlier this year, well ahead of its usual Google I/O debut, that doesn't mean the operating system itself will come earlier. And even if it does Android N will be reserved for the Nexus line, and won't appear on other phones until late 2016/early 2017.

However, recently more weight has been added to the theory the Note 7 could come with Android Nougat out of the box, no matter how unlikely that sounds. What appears to be a very early prototype of the Note 7 (running only 3GB of RAM and last years' Exynos 7420 chip) has been spotted in the Geekbench database running Android Nougat. Don't get your hopes up just yet, though: Samsung may be doing no more than showing an active interest in how Nougat will run on the Note 7 when it becomes available to it.

We'd also expect to see the TouchWiz UI installed and working in much the same way as on the Galaxy S7 but with extra features for the S-Pen stylus. TouchWiz is reportedly getting an upgrade (called Grace).

Review: OnePlus 3

£309 inc VAT • oneplus.net/uk ★★★★½

Now in its third generation, the OnePlus 3 is the latest phone from the popular Chinese firm. This year's model is a stunner, with a metal design that's thinner and lighter than its predecessors. It also comes with improved specifications, including 6GB of RAM, 64GB of storage and a 16Mp Sony camera. Then there's the price, which is around £200 cheaper than its rivals.

Design

While we've been big fans of previous OnePlus phones, we've been a little put off by how bulky they have been (bar the smaller OnePlus X). The firm has addressed this with its latest offering, which is a much more slender 7.35mm and a more manageable 158g.

More obvious is the switch to a metal unibody chassis, which is manufactured from a single block of aluminium. It looks and feels like a premium device and the resemblance to a other metal phones, such as those from Apple, HTC and Huawei, is unavoidable.

What we really appreciate is the attention to detail here, and we particularly like the angles, which not only look good but make the phone very comfortable to hold. We're also fans of the chamfered edges, which adorn the USB port and the speaker holes.

The 2.5D Gorilla Glass 4 screen meets the metal chassis in a smooth and luxuriously flush way, and the Alert Slider on the lefthand side has a solid and satisfying motion, with its textured surface.

If for some reason you don't like the metal look or you want to protect it from scratches, OnePlus offers a range of cases, which are extremely thin, so don't add much weight. They are available in Rosewood,

Black Apricot, Bamboo, Karbon and the classic Sandstone, and are priced £19.99 each.

We're really impressed with the OnePlus 3 in terms of design and build; it's easily the best we've seen from the company. It will be a little bit big for some people, despite 5.5in being the 'sweet spot' for OnePlus. It's also a tall phone, though the tiny bezels on either side of the screen help things. We're hoping that a smaller version will come in the future but we'll have to wait and see – perhaps a OnePlus 3 mini or new OnePlus X.

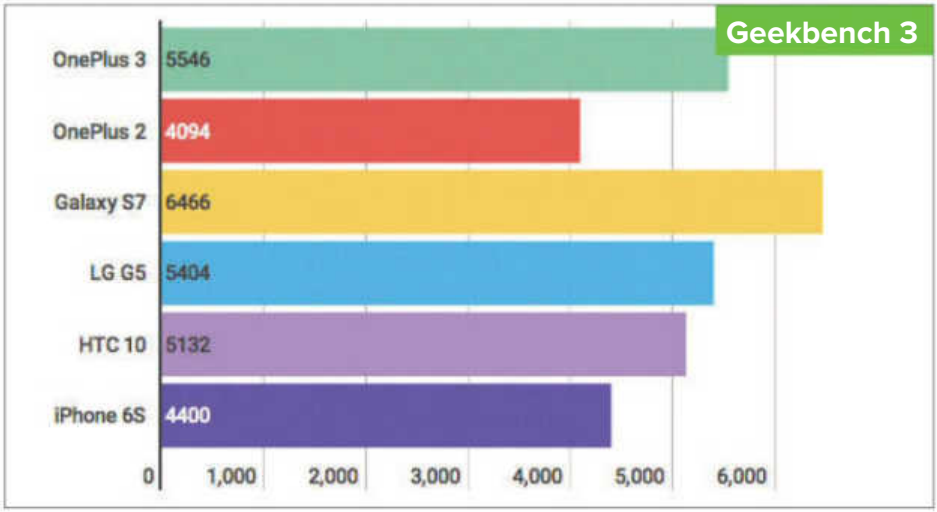
Display

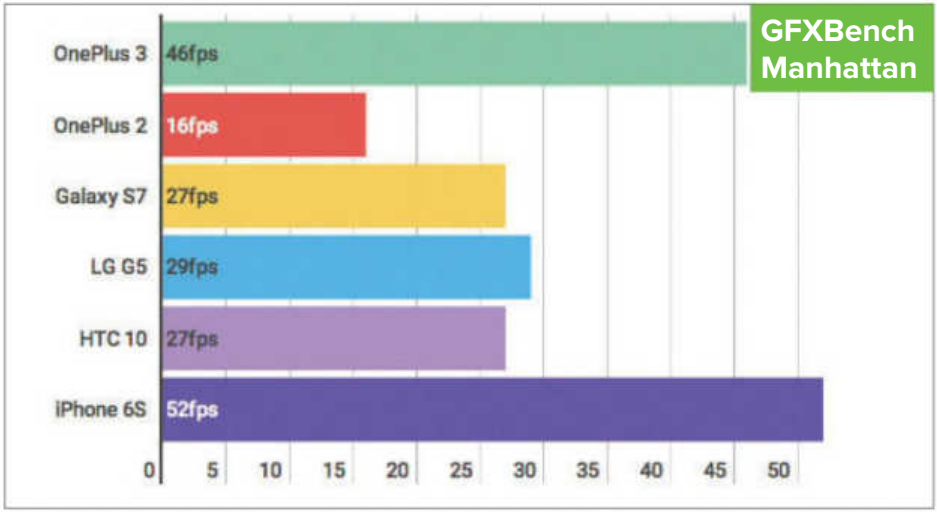
The Chinese firm has stuck with a 5.5in screen size and a Full HD resolution for this phone. What is new is a change to Optic AMOLED technology, which is the company's take on SuperAMOLED. This looks great thanks to more vibrant colours and better contrast, and is also what enables the phone to have those tiny bezels.

Our only real complaint is that even at full brightness we occasionally found it hard to read outside in bright sunlight. This is despite a dual-polarising layer, which is supposed to make this easy.

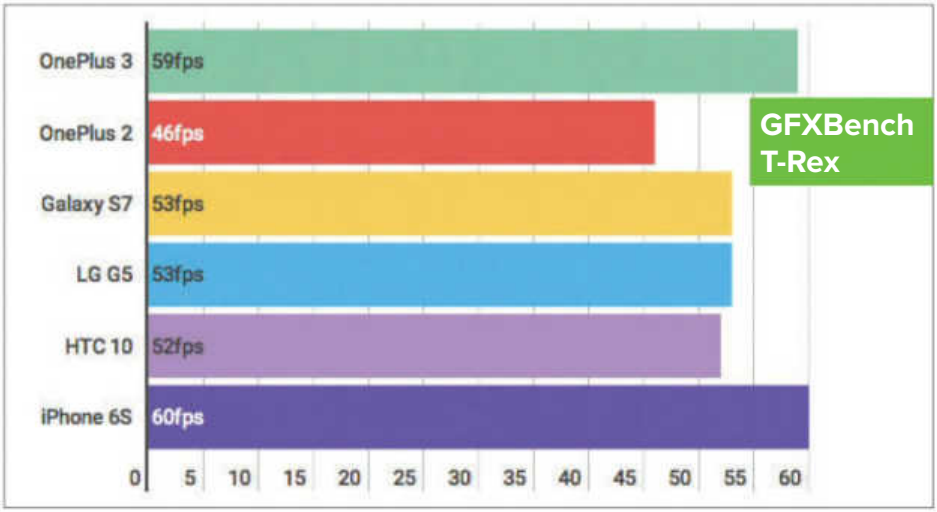
Performance

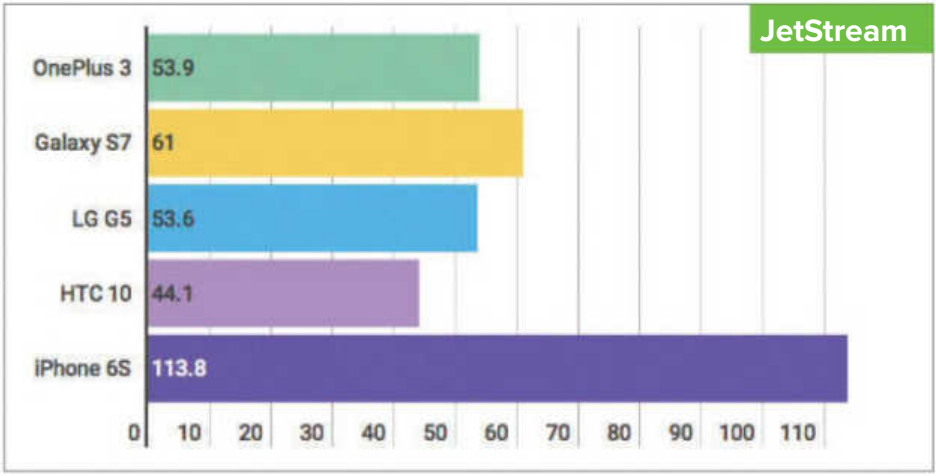
The OnePlus 3 is powered by a Qualcomm Snapdragon 820 processor, which means it joins the 820 club, whose members also include the HTC 10 and LG G5. This quad-core chip comes with the Adreno 530 GPU and is clocked slightly higher than other phones at 2.2GHz – the other two cores are 1.6GHz. The phone also comes with





6GB of LPDDR4 RAM. That's 2GB, more than any other phone we've seen. In both our benchmark tests and real-world use, the handset offered slick performance. OnePlus has done a great job of making the interface feel extremely responsive





and fast. The phone does everything you throw at it without hesitation.

Storage

The firm offers just one storage option – 64GB. That's impressive when you consider that many

similarly-priced rivals tend to offer 16- or 32GB. The only downside here is that there's still no microSD card slot, which may put off some.

Fingerprint scanner, NFC and connectivity

The fingerprint scanner is still a key feature and sits below the screen. It's extremely fast and accurate when scanning (under 0.3 seconds, according to OnePlus) and can be used to unlock the phone from sleep and mobile payments, including Android Pay.

OnePlus has also listened to its customers and brought back NFC. This can be used for a variety of tasks, including Android Beam sharing, quickly pairing with Bluetooth devices that also feature NFC and mobile payments.

Remaining connectivity is what you'd expect at this price, with 4G LTE (Cat 6), 11ac Wi-Fi, GPS and Bluetooth 4.2. Although there's no expandable storage, the OnePlus 3 comes with a Dual-SIM setup featuring two Nano-SIM slots.

Battery life

The OnePlus 3 has a slightly smaller battery than its predecessor at 3000mAh (down from 3300mAh), but that's still a reasonable size. As usual, it's non-removable.

The phone has a reversible USB Type-C port and is a supplied with the new Dash Charge charger, which provides 5V and 4A of electricity (favouring current over voltage). There's also a Dash Charge car charger if you want to top up quickly when driving, though this will set you back and extra £24.99.

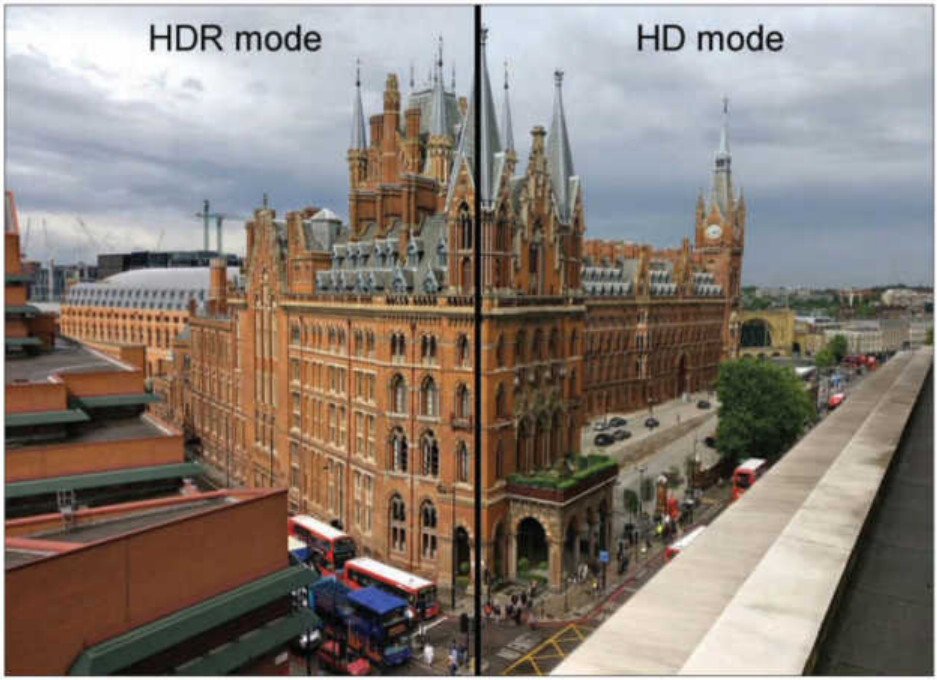
What's interesting here is that OnePlus has moved the power management controller to the charger instead of housing it in the phone. This means the handset keeps cooler during charging and can continue to fast charge while doing things such as gaming as a result. To avoid any mishaps, when a different charger or cable is used, the charging reverts to regular speed.

In our tests, the OnePlus 3 charged 61 percent over 30 minutes and was only warm to the touch, despite having a case on during charging. We recorded a benchmark time of six hours, 13 minutes in Geekbench 3 with a score of 3735, which is decent but a little way of some rivals which have hit nine-, 10- or even 11 hours.

Cameras

Going by specifications alone, you'd be forgiven for getting excited about the OnePlus 3's main camera. It has a 16Mp Sony IMX298 sensor (the same as in the Xiaomi Mi 5) and a lens with an f/2.0 aperture. There's optical image stabilisation (OIS), electronic image stabilisation (EIS) and phase detection autofocus.

OnePlus claims the camera will give you clear shots in just 0.2 seconds, so you'll easily catch a Formula 1 pit stop. There's support for shooting in RAW, as well as JPEG files, plus a new manual mode if you want to take control of



the ISO, shutter speed and focus. The camera app's interface is minimal, so it takes a while to figure out how to find the settings, though you'll have to resort to the manual to understand why there's an HD button at the top, which, when tapped, disables HDR. To save you the effort, HD mode enhances detail, sharpens lines and increases clarity – much like you can in an image editor such as Snapseed.

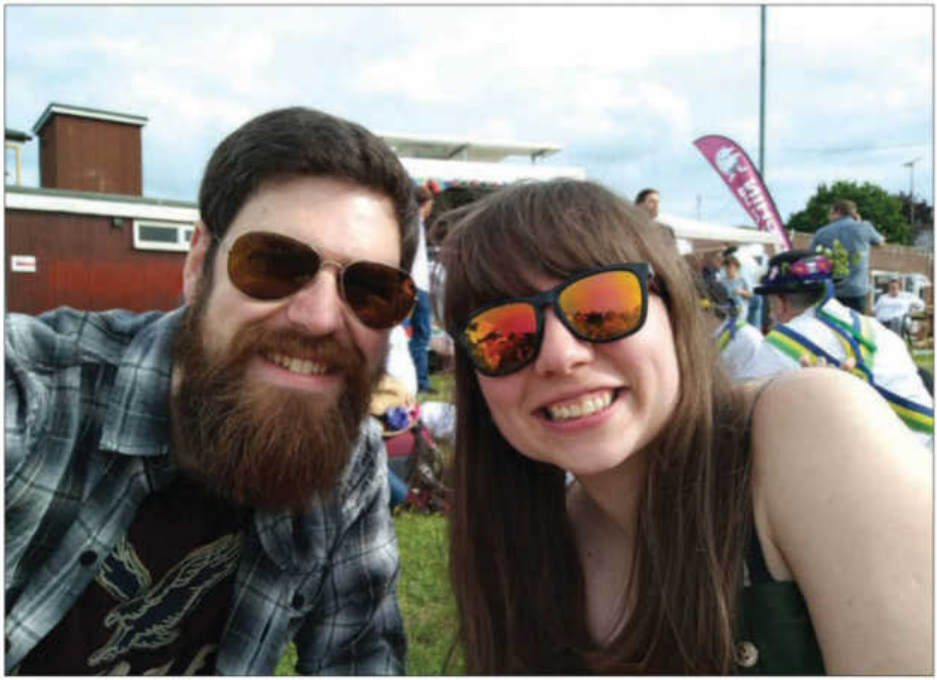
Overall, we were impressed with the camera. That fast autofocus means photos were generally in sharp focus, although pushed to the limit (when attempting macro shots) it can be hard to judge whether your subject is too close and blurry.

Colours are lifelike without being overblown, and dynamic range seems good even without using

the HDR mode. A feature that works effectively is Dynamic De-noise. Our shot in a dimly lit bar (above right) shows no noticeable noise, but another taken in our office during the day proves the algorithm does work well in all scenarios.

We took several comparison shots to see the difference between HDR and HD (above left), but none existed. Whether looking at our usual framing of St Pancras or a macro photo, it was impossible to see any improvement in clarity or detail when using the new HD mode.

The rear camera is also capable of recording video in up to 4K, but while there's OIS for photos, this doesn't appear to be used for video, which relies on EIS. It's reasonably



effective if you stand still, but start walking or moving the phone around and you'll soon find its limitations, with slightly jerky movement and odd sparkling effects in skies. 4K video quality is very good, though: sharp and packed with detail. What's unimpressive is the soundtrack. Voices sound distant and muffled, as though underwater – this could well be a failure of the noise cancellation of the dual microphones.

At the front is an 8Mp camera with 1.4µm pixels. It can record 1080p video at 30fps. Selfies (see above) are sharper than we expected, and the field of view is easily sufficient for two people at arm's length. A Smile Capture option saves you stretching for the shutter button.

Software

This phone comes with Android 6.0.1 Marshmallow. OnePlus provides its OxygenOS 3.1, which is a very close to stock Android with a few different features and ways to customise the interface.

Open it up and you'll notice that there is next to no bloatware installed on the phone. You get the usual suite of Google apps, plus the odd duplicate from OnePlus such as Gallery, Music and Files. Control over apps is very good as OxygenOS allows you to set permissions for individual apps as well as control notifications, too.

Not a great deal has changed with OxygenOS for the OnePlus 3 – a key new software feature is the latest camera app as detailed above, but that's not a bad thing. It offers a slick and easy-to-use interface with a great deal of customisation.

Gestures are still available to switch on in the settings to do things like wake the phone with a double-tap, open the camera by drawing an 'O' and toggle the flashlight with a 'V'. You can also draw different shapes to control music playback. We like existing features such as the dark mode, an accent colour for the themes, customisable LED notifications and the Shelf, which is a swipe away from the home screen. It lets you quickly access apps, contacts and information, and you can also add widgets like you would on the homescreen.

Either side of the fingerprint scanner are two capacitive buttons, similar to the Galaxy S7, though you can choose which one is use for back and recent apps. In addition, you can choose for shortcuts for long presses. Furthermore, you can use on-screen buttons if you want.

Other options include the ability to rearrange the quick settings, customise the Google search bar or remove it and make use of the proximity sensor to activate the screen when you wave in front of the camera. The latter is turned off by default.

You can also customise the size of icons, the grid in the app draw and switch features like quick search (swipe up) and quick notifications (swipe down once instead of twice).

Verdict

The OnePlus 3 is another amazing smartphone from the Chinese company and is easily its best effort yet. It's a little bit more expensive than its predecessor, but it's still great value considering the design, build and hardware on offer, which not only matches rivals but beats them in some areas. There's very little to dislike here unless you really need expandable storage. **Chris Martin**

Specifications

- 5.5in full-HD Optic AMOLED screen (1920x1080, 401ppi), Gorilla Glass 4
- OxygenOS based on Android 6.0.1 Marshmallow
- 2.2GHz quad-core Qualcomm Snapdragon 820 processor
- Adreno 530
- 6GB LPDDR4 RAM

- 64GB internal storage
- 16Mp rear camera, f/2.0 aperture, 4K video/120fps slo-mo at 720p
- 8Mp front camera
- Proximity sensor
- USB Type-C charging port
- 11ac Wi-Fi
- Bluetooth 4.2
- GPS with GLONASS
- NFC
- Fingerprint scanner
- Bottom-facing speaker
- 3.5mm headphone jack
- 4G LTE Cat 6
- Dual Nano-SIM
- 3000mAh non-removable lithium-polymer battery
- 153x75x7.35mm
- 158g

Review: Sony Xperia X

£459 inc VAT • sony.co.uk ★★★½☆

In an unusual move that surprised us all, Sony decided not to launch the Sony Xperia Z5 Tablet we were expecting at MWC 2016, but instead added a brand-new smartphone range to the mix. The new Xperia X series offers specifications that sit just below the flagship Z range, plus some interesting new features for the camera and screen. We've spent some time with the Sony Xperia X, so here we bring you our full and in-depth Sony Xperia X review.

It's unclear at the moment, but it's possible that the Xperia X range is in fact a replacement for the Z range. There may never be an Xperia Z6 smartphone but we hope there is as changing the flagship range from Z to X is unnecessarily confusing.

Price

The Xperia X is available to buy now both from Sony and also from networks including EE, O2 and more. It comes with a SIM-free price tag of £459 (you can buy it here), which is a pretty high price for a phone with mid-range specs.

For comparison, Sony's Xperia Z5 flagship phone from 2015 was £549, while the Compact model had a lower price tag of £429 despite its great specs. This is partly why it's thought the range might replace the Z line-up.

And when we take a look at competitors, you'll find that there are phones available at around the same price as the Xperia X but with better specifications, including Huawei's brilliant P9, which is actually a bit cheaper at £449.

The X does have some big selling points, though, including its brilliant camera and battery life as well as its design, so it's a shame that its price tag stops us from being able to rate this phone highly on value. We expect that the price will drop over the coming months, though, so keep an eye out for a good Xperia X deal.

Design

The Xperia X has a 5in screen surrounded by dinky bezels, resulting in a sleek and stylish design that we were instantly attracted to. The X doesn't have the edge-to-edge screen of the Xperia XA, but it's not far off and we think it looks great.

It's 7.9mm thick and feels gorgeous to hold, with slightly curved glass that blends silkily into the curved edges of its body, taking a slight departure from the blocky nature of Sony's previous Xperia

phones. It's wonderfully light, too, at 153g. Colour options include a really unattractive Lime Gold, a reasonably nice Rose Gold and really good-looking White and Graphite Black models, all of which have a slight shimmer to them. They also come with optional matching cases and covers.

We love the dedicated camera shutter button we've come to expect from Sony phones,

Our only caveats with the design are that the screen is prone to picking up fingerprints and the body isn't seamless so little crumbs and bits of fluff can become stuck where the back cover and edges of the phone meet.

Also, the SIM tray is combined with the microSD card slot and is a bit fiddly to remove and reinsert, but you're unlikely to need to do this often so it's not a deal breaker.

Performance

Taking a closer look at that 5in display, you'll find that it's a crisp, clear and colourful Full 1080p HD. The size is actually smaller than most phones these days, many of which are around the 5.5in mark so the Xperia X will suit those wanting something a little easier to handle and pocket.

The processor inside the Xperia X is mid-range, with a Qualcomm Snapdragon 650 taking centre stage with 3GB RAM as its sidekick. In our benchmark tests that duo managed to achieve a Geekbench 3 multi-core score of 3746, which puts it in line with competitors like the Samsung Galaxy A5 2016 (which is available at more than £100 less than the £459 price tag of the X). Competitors within the same price range typically score much

higher in these performance tests than the X did, with the Huawei P9 impressing us with a score of 6506 in the Geekbench test, for example.

When it comes to graphics, the Xperia X scored a good 35 frames per second in the GFX T-Rex test, which is almost the same as the P9's 36fps

and much higher than the Galaxy A5's 14fps. In the more difficult Manhattan test, the Xperia X managed 17fps, which is just a bit lower than the 19fps achieved by the P9 and much higher than the A5's 5fps.

In practice, those scores mean that the Xperia X is speedy enough to perform most tasks without any major lag, but we did find that it struggled with switching between camera modes sometimes, for example. Most apps should run well, but particularly graphics-heavy apps may struggle and if you plan on multitasking with lots of apps open at once, expect the phone to become quite sluggish.

Talking of the camera, you'll find that it is 23Mp on the rear and 13Mp on the front, which Sony

touts as one of its standout features and we can't help but agree. The rear camera has a Predictive Hybrid Autofocus feature, which sounds amazing in principle but in practice doesn't always work very well.

Essentially, the Predictive Hybrid Autofocus feature lets you open the camera app, tap a moving object that you want to take a photo of and wait until you want to snap the picture. It's designed to predict where the object is going to go and make sure it is the point of focus when you press the shutter button, but when we tried it the focus was never quite right. Plus, the design of the phone and the positioning of the button that switches to the front-facing camera meant

we kept tapping it, and we've witnessed others suffering from the same surprise when their face unexpectedly appeared on screen.

You'll also find quick launch, auto-focus and HDR, as well as an ISO of up to 12800 for low light photography, 1080p video recording, video stabilisation and more. In short, it's a mighty good camera for a smartphone but at this price we'd expect things like optical image stabilisation and 4K video recording.

There's 32GB of built-in storage as standard, and it accepts up to 200GB additional storage via microSD card.

Additional features include a fingerprint sensor on the side of the phone, like the Z5 range, designed to make unlocking the phone seamless and secure. We found the positioning of the sensor (on the right side of the phone built-in to the lock button) perfect for quickly unlocking the phone without having to even think about it. Things might be a little trickier for left-handed users, though.

As for battery life, you'll find that you'll only need to charge once every two nights at most, which is much better than you'll find from many flagship smartphones in 2016. In our battery tests, for which we use the Geekbench test, the Xperia X lasted 9.25 hours, with a score of 5649. That's really impressive, and beats the flagships like the Galaxy S7, HTC 10 and LG G5.

Software

The Sony Xperia X is running the latest version of Android – Android 6.0.1. It's not far off stock Android, with the familiar app drawer, notifications

and multitasking. Additional features exclusive to Sony include a What's New panel viewable when you swipe right from the home screen, with recommendations about new apps, movies, music and more that are updated daily. There's also Xperia Lounge and extra features for PlayStation users.

Verdict

We wish we could rate the Sony Xperia X more highly than we have. It has a stunning design with a screen size ideal for those who prefer the smaller end of the spectrum. The 5in screen is the sweet-spot for us here. It also offers a great battery life, a brilliant camera and performance that should satisfy the majority of users.

But with a price tag of more than £450, this phone is overpriced. When you compare it with the competition both in terms of price and specs, you can get a lot better value for money elsewhere which makes the Xperia X hard to recommend, even if money is no object. **Ashleigh Allsopp**

Specifications

- 5in Full HD curved display (1920x1080)
- Android 6.0 Marshmallow
- Qualcomm Snapdragon 650 processor
- 3GB RAM
- 32GB storage
- MicroSD card slot (up to 200GB)
- 23Mp rear camera with Predictive Hybrid Auto Focus, 1080p video recording
- 13Mp front camera, 1080p video recording
- Bluetooth 4.2
- GPS
- NFC
- Fingerprint scanner Cat 6
- 4G LTE
- Micro-USB
- 2620mAh battery
- 142x69x7.9mm
- 153g

Review: Sony Xperia XA

£239 inc VAT • sony.co.uk ★★★½☆

For the past few years, the company has updated its Xperia Z range almost every six months, an act that not only frustrates Sony fans locked into two-year contracts who see several new handsets hit the market, but also makes us wonder if Sony is clutching at straws. We can't deny the Xperia Z5 was an excellent phone, but now the flagship model appears to be the

Xperia X – that's not this phone though. Released at the same time at the X is this, the Xperia XA. It's cheaper and better looking, but has fewer features and lower specifications.

Who is the Xperia XA for, and should you consider buying it over other Sony phones or its competitors? Here's our Sony Xperia XA review.

Price

The Sony Xperia XA is available at the time of writing in the UK for £219.99 SIM free from Carphone Warehouse, which is much lower than the Xperia X, which retails for £469.99.

Rivals to the XA in terms of price are the Samsung Galaxy A3 (£249.99) and the iPhone 5s, which is now available new for £239 due to it nearing its third birthday.

Design

The Sony Xperia XA excels in the design department. This is a slim, solid smartphone that will tick all the right looks boxes if you like smaller handsets; it has a 5in screen. The killer touch with the screen is that it is edge-to-edge, which ensures the handset doesn't feel too big in the hand. We could almost say you can use this one handed, but it's sometimes hard to text with just your thumb.

The build quality is pretty good, though there's no metal like on the flagship Xperia X - instead the XA is coated in solid plastic, but the back picks up fingerprints quite easily. Our review unit was the black model, which is really more of a grey. It's also available in white, rose gold and gold. Wonder where they got that idea?

Overall this is a lush looking phone, and seeing as the edge-to-edge display isn't on the more expensive Xperia X it's a great differentiator if you want to spend less but get a premium look. The edges are aren't rounded or obvious as on the Samsung Galaxy S7 edge, and they also provide no additional functionality like that phone does. Here, it's purely for the looks.

The XA comes in at a slender 143.6 x 66.8 x 7.9mm, making it no fuss for any reasonably sized pocket at 137g. It's seriously compact, and this is a smart move by Sony, as the price range it sits in is still a tricky one. At over £200, the Xperia XA won't get much pay as you go attention, but once you start to consider contracts, most people won't mind paying a tenner more a month for a superior alternative handset.

There's a circular power button on the right edge, but no fingerprint scanner. Just below that is the volume rocker, with the dedicated camera button further down. There's a camera front (13Mp with LED flash) and back (8Mp) and a thick bezel at the top and bottom of the phone.

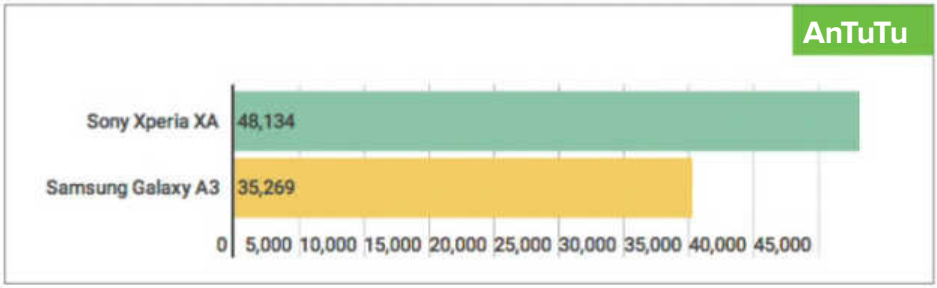
The thing is an absolute fingerprint magnet though, with no anti-mark coating on the front screen as far as we can tell. The SIM and microSD slot (expandable up to 200GB) tray is on the left side, but be warned that if you take the SIM out, the phone will restart which is a bit unusual for a modern smartphone.

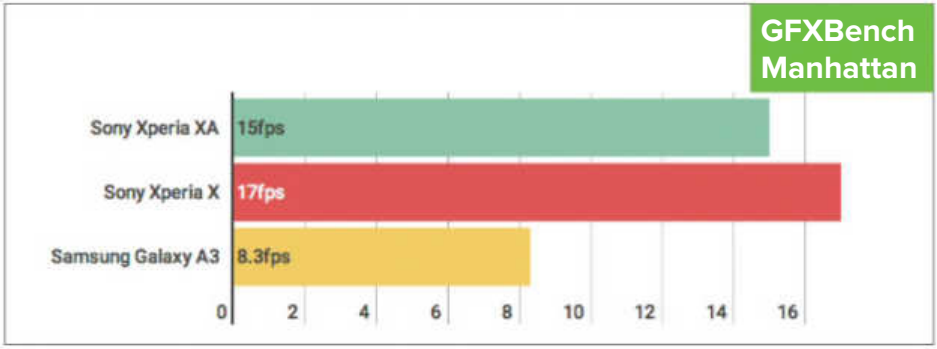
Performance

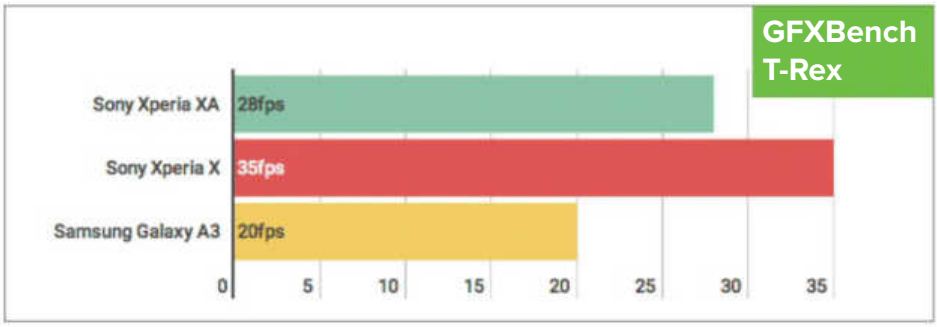
The specs are where the Xperia XA, on paper at least, falls down compared to the kings of the Android world. The screen, an IPS LCD capable of 16M colours, is noticeably inferior to not only the Xperia X but many other modern smartphones, particularly if you've ever used an iPhone with a Retina display – a high definition standard since 2010's iPhone 4. Text displays on the XA a tiny bit pixellated and the screen is fairly dark when watching videos even with the brightness jacked right up.

The processor on board is a mid-range Mediatek MT6755 Helio P10 alongside a just-fine 2GB RAM. This memory limitation is only noticeable if you really make the XA sweat; more than 10 apps open and you get the lag you would expect for a sub-£300 phone. There's also NFC but no finger print scanner, so the quick convenience of payment apps is taken away.

Sony phones of late have got praise for being waterproof, but again this is a feature the XA loses. We'd have assumed this would be a way to keep the price down, but the flagship Xperia X also is not waterproof. Sorry about all the Xs, we know it gets confusing.







More apparent when we set up the Xperia XA, using Sony's admittedly excellent Xperia Transfer Mobile app, was the 16GB on board storage. You really will need to buy a microSD card to expand the storage if you want more than a few apps and media on your phone. We ran a few microSD cards

through their paces right here. Data exchange and charging happens via Micro-USB, and with the bundled charger you can take advantage of fast charging, which is excellent for the price point – Sony claims 5.5 hours of battery from a 10 minute charge, and in our use it was good for this claim.

Benchmarks, as expected, are below that of the Xperia X, but good to see the XA not far behind. Additionally, it outperformed the similarly priced, mid-range Samsung Galaxy A3 by a distance.

Camera

As you may have guessed, the camera on the Xperia XA is passable, but nothing special. It's not a phone you'd want to rely on for wedding snaps, whereas higher-end phones can produce good enough images for you to leave your DSLR at home. Here's our run down of the best smartphone cameras today.

Sony's marketing for the XA is very aggressive and also quite vague. It's a company that loves to make up features that don't really mean anything. A case in point is the camera having 'Hybrid Autofocus' that supposedly locks on to moving objects to keep the picture sharp. You can tap anywhere on the screen to lock onto a target, which is clever, but when we moved the phone while taking a picture it came out blurry every time.

This is very usual for a smartphone camera and it's frustrating to see Sony produce a decent mid-range phone like the XA, but then lean on marketing which is basically a lie. It's a shame, because we still quite like this phone – just be aware of the false marketing claims.

Software

The Xperia XA ships with Android Marshmallow 6.0 and continues Sony's trend of using close to stock Android, which is great to see. The app tray is still slightly different but if you've used any Android phone before this is familiar territory. As with other Xperia phones, there's a little bloatware when you set up, such as Sony's TrackID widgets for music playback and the PlayStation app. Keep them if you like, but if you remove them from your home screen or uninstall, the branding isn't that intrusive.

The 2GB RAM comfortably deals with the operating system, but the handset gets a little

sluggish when you're using tons of apps at once. Then again, so do the most high specification smartphones out there.

Verdict

We quite liked our time with the Sony Xperia XA, and it represents much better value for money than the flagship Xperia X, which is overpriced. We recommend the XA if you want a sleek, smart, mid-range phone that does everything acceptably well. If you get it on contract it'll be about £20 per month, so for about half the price of a 2016 flagship. It's solid, but we are strangely still waiting for Sony's world-beater. We're beginning to think it might never appear.

Specifications

- 5in (1280x720) IPS touchscreen, 294ppi
- Android Marshmallow 6.0
- 2GHz Mediatek MT6755
- Helio P10 Mali-T860MP2 GPU
- 2GB RAM 16GB storage microSD expandable up to 200GB
- 13Mp main camera, LED flash
- 8Mp front camera
- Wi-Fi 802.11 a/b/g/n
- Bluetooth 4.1
- 4G LTE
- Nano-SIM
- GPS
- NFC
- 2300mAh non-removable battery
- 143.6x66.8x7.9mm
- 137.4g

Review:
Motorola Moto G4 Plus

£199 inc VAT • motorola.co.uk ★★★★☆

Motorola has updated its best budget smartphone line-up for 2016 with two different models. The Plus model isn't bigger but comes with a fingerprint scanner, extra RAM and storage, plus a higher resolution camera so the price might be worth paying for some.

The firm, now owned by Lenovo (formerly Google) has been making great budget phones since 2013 and we're informed the Moto G family is the company's most successful range

ever. This time around there are two models to choose from which is a first but the range isn't exactly budget anymore.

Price

Although the Moto G range has traditionally been budget phones, the price has crept up each year. The regular model starts at £169 now and to bag yourself the Moto G4 Plus, you'll need to spend at least £199. You do get a few upgrades though which we'll look at in the specifications section below.

The specs are impressive for the price and even outpace the existing £259 Moto X Play in many areas. It's worth noting that the Moto G third-generation from last year is now £149 if you're looking for something cheaper.

The £200 mark is an unusual one for a phone these days and if you want to order via the Moto Maker where you can customise elements such as the rear cover and accent colour, it will cost you £229. For the more tempting 64GB model, the Moto G4 Plus price jumps to £264.

We're certainly not in budget territory any longer and at over £250, rivals start to include the likes of the Vodafone Smart Platinum 7, Samsung Galaxy A5 2016 and OnePlus 3. Cheaper options such as the Samsung Galaxy A3 2016 and OnePlus X are worth a look.

Design

Seemingly unhappy to conform to smartphone market traditions, the Moto G4 Plus isn't actually bigger than the regular Moto G4. In fact, you'd

struggle to tell them apart since they are almost identical in design.

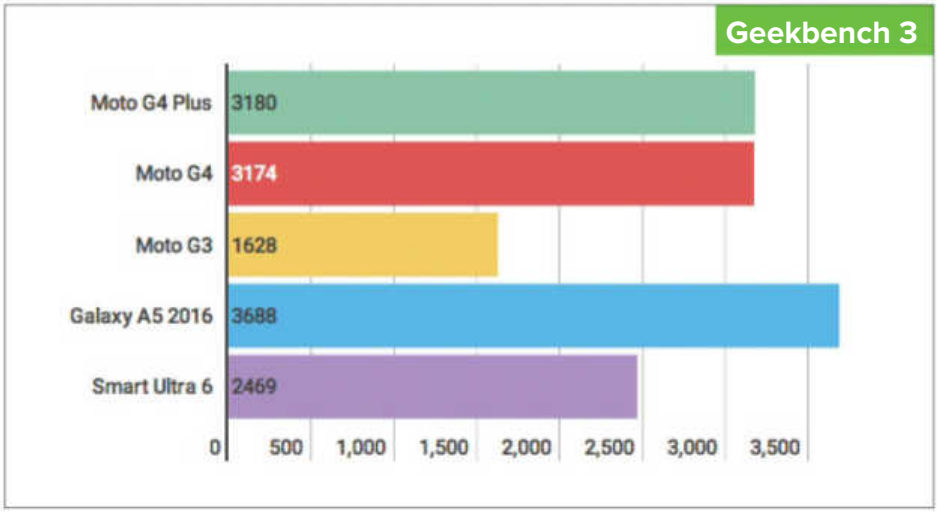
The only way to tell the Moto G4 and Moto G4 Plus apart is the fingerprint scanner which sits below the screen.

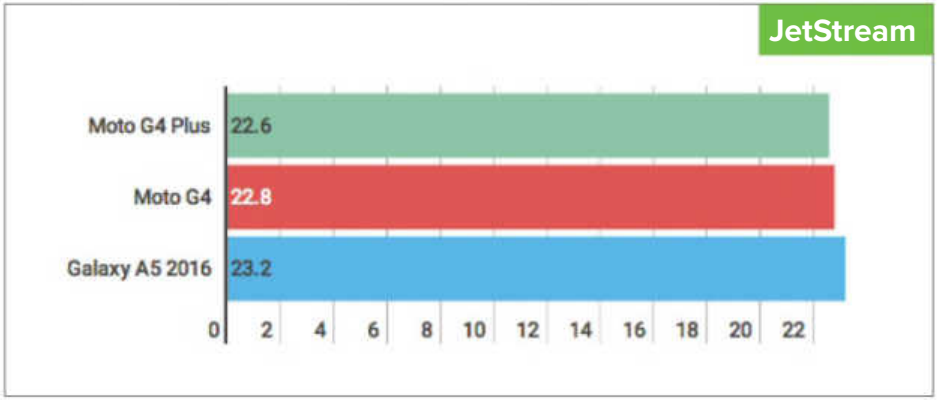
So we're not left with much to say without repeating our Moto G4 review. The phone looks stylish and new while retaining the look and feel of previous Moto G phones. It is bigger due to an increase in screen size though so some users will find the device unwieldy. It's not too thick and heavy at 9.8mm and 155g.

Build quality is good but the Moto G4 Plus is still very much a plastic phone and there's better available at this price point elsewhere if this is important – the OnePlus X is a prime example. It's a shame Motorola doesn't offer other materials, such as wood and leather, like it does with the Moto X Style for an extra cost for those who want it.

One of our only complaints about the design is that the volume rocker is a little tricky to use as it is very flush with the case. We also envisage the groove for the earpiece above the screen will get clogged with dirt over time.

A bigger issue is that Motorola has decided to ditch the waterproofing, which it

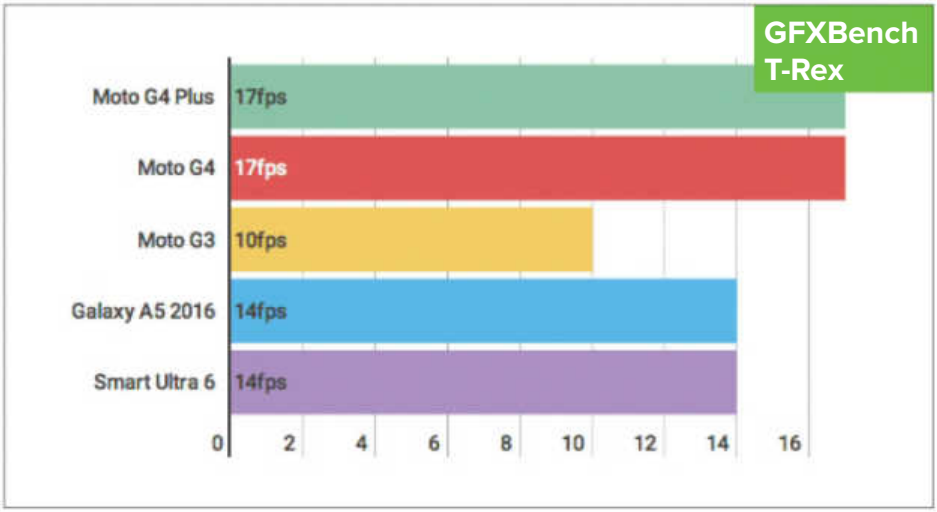


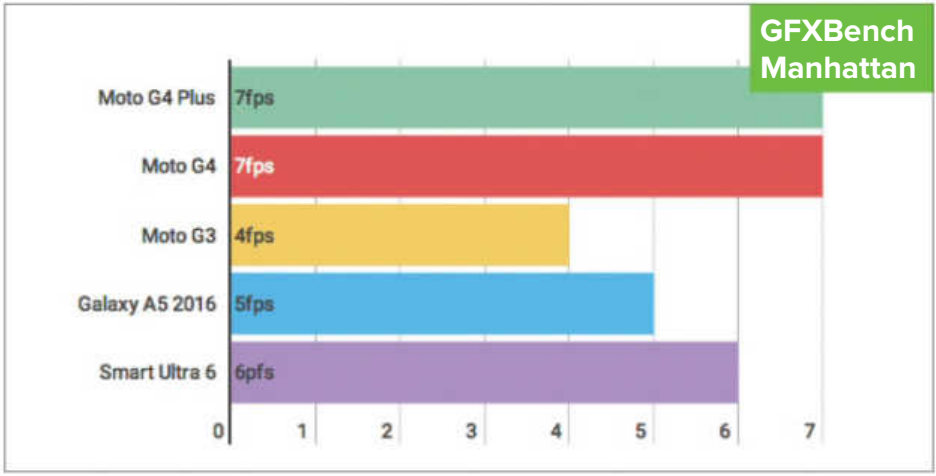


used last year. Instead, it has saved some money by just going for basic splash protection which it thinks is enough for most consumers.

Performance

As we've already mentioned, the G4 Plus is exactly the same size and shape as the regular Moto G4. This means that it has the same 5.5in screen size,





despite the likes of Apple and Samsung using, plus models for a bigger phone.

You might think that perhaps the screen resolution is higher but it's still Full HD like the cheaper model. We're not saying it's a bad thing and the screen is very good quality offering good

contrast, colours and viewing angles. As we've said, it's mainly the size that might put some users off so it's a bit of a shame there isn't a choice on that front.

The G4 Plus uses the same Qualcomm Snapdragon 617 processor as the regular G4. The octa-core CPU (up to 1.5GHz A53 cores) is a nice jump from the Snapdragon 410 previously used and features Cat 7 LTE and Adreno 405 graphics.

There's potentially a big difference if you splash out on the higher-spec model of the Moto G4 Plus which comes with 64GB of storage and 4GB of RAM which is double the standard model on both fronts. Storage becomes less of an issue due to the inclusion of a microSD card slot which can take up to 128GB.

Sadly, we've only been able to benchmark the lower spec and you can see the results below. We're impressed with the performance from a user point of view; the Moto G4 Plus is a smooth operator in general use.

You might be a little bit disappointed when it comes to connectivity as although the Moto G4 Plus is more expensive you still only get 11b/g/n Wi-Fi, Bluetooth 4.1 and regular Micro-USB. This means there's no NFC, modern Wi-Fi or other features like USB-Type C.

The fingerprint scanner provides extra security but the lack of NFC means you can't use it with Android Pay which is a shame. It's fast and accurate most of the time but it's smaller than most and usually as a small rim around it which feels odd but also helps you locate. What's strange is that you can't use it as a home button.

The Plus in the model name doesn't refer to battery life as the phone also has a 3000mAh battery which is non-removable even though you can take the rear cover off. In our benchmark test the Moto G4 lasts a very decent eight hours and 50 minutes with a score of 3537 which is a decent result.

What you do get for your money is the TurboPower charger included in the box which the regular Moto G4 doesn't come with. Via fast charging you can get '6 hours battery life from a short 15 minute charge'; or 25 percent charge going by Motorola's 24 hour battery life claim. We found it only charged 17 percent in the space of 15 minutes.

Cameras

On paper, photography is one area which might convince you to spend the extra cash on the G4 Plus since it comes with a 16Mp camera compared to 13Mp. It still features an f/2.0 aperture, phase detection and laser autofocus plus a dual-LED (dual tone) flash.

You'll need to shoot in a 4:3 aspect ratio to use all 16Mp as the phone will shoot at 11.9Mp by default. Sadly, in our tests there's really no visible difference in still photos, even when you crop into a small section so for uploading to social media you're definitely not going to notice any benefit.

It's disappointing to find that the G4 Plus, like the regular model, is limited to 1080p video recording at 30fps despite the extra resolution. It can also only shoot slow motion 120fps video in a paltry 540p.

Software

There's understandably no difference between the Moto G4 models when it comes to software and the Plus comes with Android 6.0.1 Marshmallow. We're happy to report that Motorola keeps things very much stock so you get a pure user interface experience almost like buying a Nexus phone.

Motorola's thin layer does include some handy features though which are welcome additions.

There are basic things like the clock widget which has date and temperature info, but most are found in the Moto app.

Head here to find some useful functions which were previously spread across various apps. Now this is a hub for things like Moto Display and Moto Actions. The former allows you to get information on the lockscreen without switching the screen on. You can also set up a time period to keep the screen dark. Moto Actions is a set of optional gestures for quickly doing things like launching the torch or camera app. You can also pick up to answer a call or flip over to enable do not disturb.

It's very much a blank canvas as there are no duplicate apps for things like gallery or messaging. You just get the standard Google selection and then can download the apps you want from the Google Play Store.

Verdict

The Moto G4 Plus is a nice phone but it's very similar to the regular model. Since we're disappointed in the camera (with no noticeable difference), it's not worth paying the extra money to get a fingerprint scanner which can't even be used with Android Pay since there's no NFC. The only real reason to opt for the Plus is to gain more storage and the extra RAM which comes with the 64GB model; however, the microSD card slot negates this somewhat. **Chris Martin**

Specifications

- 5in 1280x720 IPS touchscreen, 294ppi
- Android Marshmallow 6.0

- 2GHz Mediatek MT6755
- Helio P10 Mali-T860MP2 GPU
- 2GB RAM
- 16GB storage microSD expandable up to 200GB
- 13Mp main camera, LED flash
- 8Mp front camera
- Wi-Fi 802.11 a/b/g/n
- Bluetooth 4.1
- 4G LTE
- Nano-SIM
- GPS
- NFC
- 2300mAh non-removable battery
- 143.6x66.8x7.9mm
- 137.4g

Review:
Samsung Galaxy A7

£399 inc VAT • samsung.com/uk ★★★½☆

The A-series is Samsung's mid-range smartphone line-up. Refreshed for 2016 it includes the Galaxy A3, Galaxy A5 and Galaxy A7, which are differentiated by their screen size, core hardware and battery capacity.

We've always been slightly troubled by Samsung's Galaxy A-series. Not because they aren't great phones, but because they aren't as good as the previous-generation S-series flagships and yet as brand-new phones they cost more.

Take the Galaxy A7 (2016) reviewed here. It's difficult to get hold of in the UK, although our review model was supplied by Mobile Fun which charges £399. That's £40 more expensive than the £359 Samsung Galaxy S6 which, aside from battery life, offers significantly more for your money.

It's also more expensive than the Samsung Galaxy A5 (2016), which is easier to get hold of (and therefore cheaper), and has largely similar specifications and performance. Mobile Fun stocks the A5 at its £289 RRP, but you can find it cheaper elsewhere. For example, the Galaxy A5 currently costs £194.94 at Amazon UK.

Our first impressions are that you'd be crazy to buy the Galaxy A7 over either the Galaxy A5 or Galaxy S6, but it is possible you might find a better deal with the A7 on contract. Let's take a closer look at the Galaxy A7 to see exactly what it has to offer.

Design

Samsung couldn't have done a better job in updating its A series for 2016, at least in terms of design since not a lot else has changed. Gone is that cheap-looking plastic and in its place is a premium design with a metal frame and glass front and rear to match its S series. More specifically, it's a match for its 2015 flagship, the Galaxy S6, which helps to differentiate it from the curvier 2016 Galaxy S7.

It's not unwieldy, but the Galaxy A7 is the largest model in the A series, and slightly bigger than the Galaxy S6 with a 5.5in screen. As was the case with its predecessor, there's a full-HD

resolution of 1920x1080 pixels that is crystal clear but also lower than the Galaxy S6's Quad-HD. It's the same resolution as is seen on the 5.2in Galaxy A5, but stretched over a larger area the pixel density is reduced (but not enough for you to notice the difference).

In common with the Galaxy S6 this is a SuperAMOLED panel, which is our favourite kind of screen tech. It produces vivid, saturated colours and deep contrast, while delivering ample brightness and infallible viewing angles. Super AMOLED is also a good friend to long runtime, and the Galaxy A7 gave a better performance in our Geekbench 3 battery life test than any phone we've tested.

At 5.5in the screen is an ideal size for viewing media and playing games, yet the phone itself isn't a great deal larger than the screen. There are very slim bezels to the left and right edges, but a bit more space up top and down below due to the physical home button (now with fingerprint scanner built in), speaker, front camera and sensors.

Like the S6 a SIM slot sits below the power button on the phone's right side. It's joined by a microSD slot – one big advantage over its S-series rival – while a second SIM slot sits at the top of the device in the same place as the Galaxy S7's. We're not entirely sure why the two SIM slots had to be separated, but it works.

The new Galaxy A7 for 2016 is a bit chunkier than its predecessor, at 7.3mm against 6.3mm, but it

also packs in a higher-capacity (but non-removable) battery, now up to 3300mAh from 2600mAh. As we noted earlier battery life is outstanding, so this really isn't something we can grumble about – especially given that 7.3mm is still incredibly thin.

The primary camera juts out every so slightly at the rear, but not enough to cause the phone to wobble uncontrollably when used on a desk or other flat surface. We're pleased to find that the single speaker is located at the bottom rather than the back, and also that despite all that glass the Galaxy A7 still feels reasonably tough thanks to its Gorilla Glass 4 protective armour.

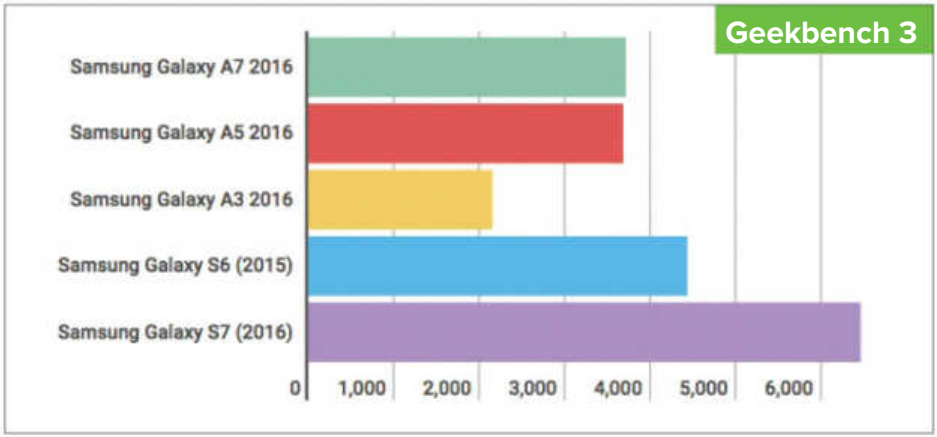
Performance

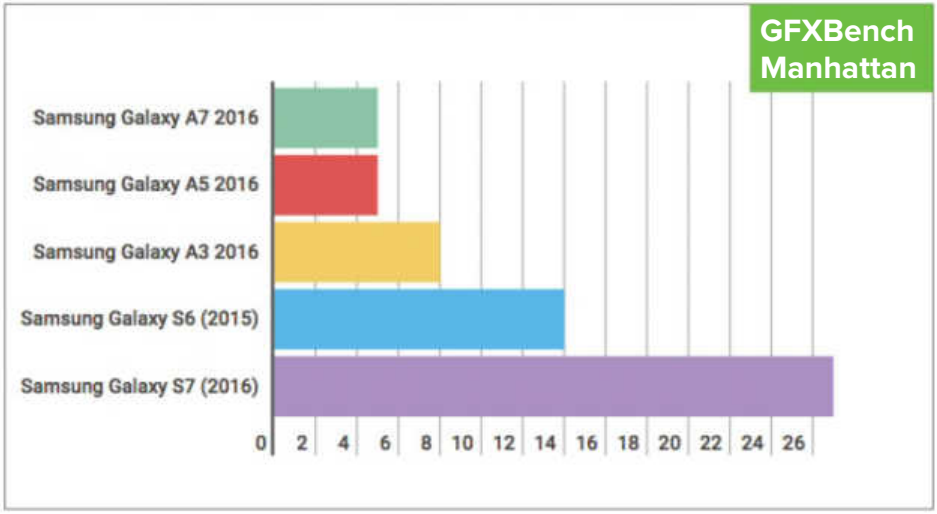
The Galaxy A7 is capable, but we're not convinced performance is good enough for Samsung to justify a circa-£400 price tag. If you want the fastest phone you really need to turn to Samsung's Galaxy S series.

With its 1.6GHz Exynos 7850 octa-core chip, 3GB of RAM (up from 2GB and an extra gig over the Galaxy A5) and Mali-T720 MP2 GPU the Galaxy A7 is up to casual gaming, video streaming and everyday smartphone tasks.

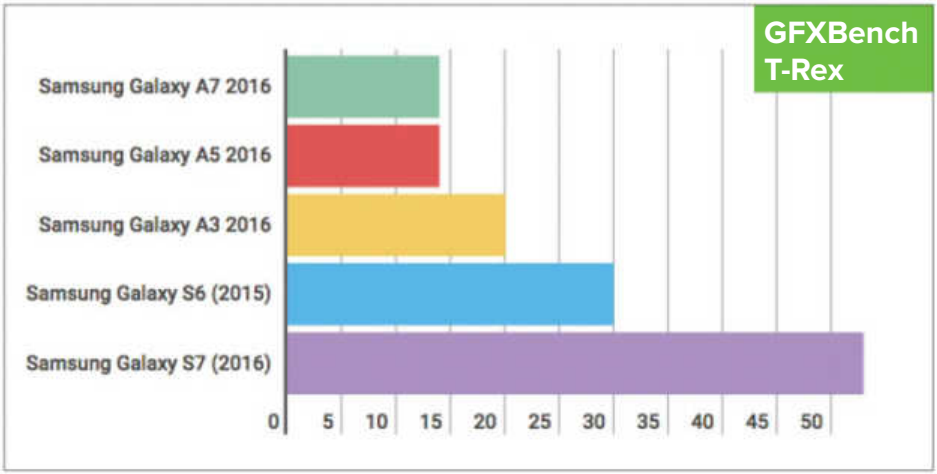
You would expect the A7 to be the fastest phone in the A series - and it is, but surprisingly only just. As with the screen's clarity, you really will not be able to tell the difference.

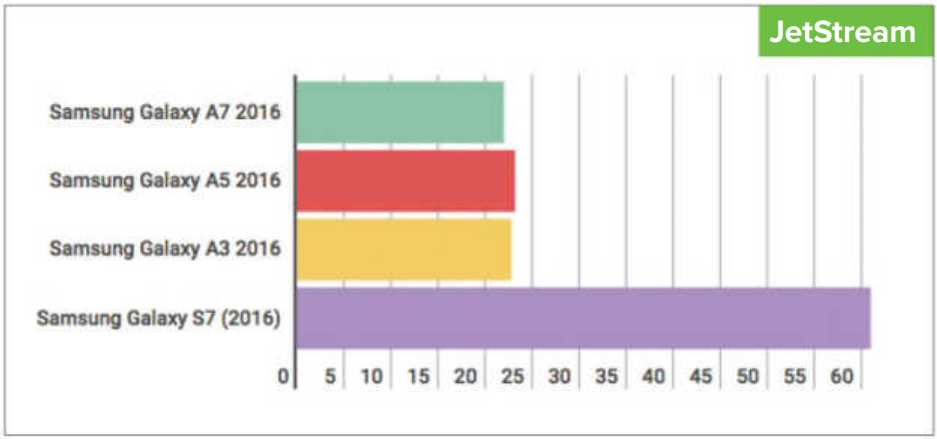
In Geekbench 3 and AnTuTu general processing performance benchmarks the A7 performed only slightly better than the A5, but significantly lower than the S6. It was the same story with the JetStream JavaScript benchmark, GFXBench





graphics tests and even Geekbench 3 battery life. Let's not do down that last point, though: with 11 hours 49 minutes the Samsung Galaxy A7 2016 sits at the top of the smartphone pile for runtime. We have not tested a phone that has managed to last longer in this benchmark. Pleasingly the Galaxy A7 also supports Samsung's Adaptive Fast





Charging technology, but unlike the Galaxy S6 there's no wireless charging.

In our charts you can see how the Galaxy A7 performed in comparison to the A3, A5, S6 and S7.

Storage is still stuck at 16GB internal, which isn't anything to shout about at around £400. However, we appreciate the ability to add a 128GB microSD card to bolster the internal storage capacity, plus

the fact Samsung – unlike so many other phone makers – doesn't force you to decide between microSD and a second SIM.

Connectivity

One of the best things about the Galaxy A7, aside from its design, is its Dual-SIM functionality. This is almost unheard of with UK phones, but there's no reason why us Brits are any less likely to want to separate calls for work and leisure or take advantage of cheaper local plans when abroad. For many people who won't want to take their chances with a Chinese Dual-SIM phone, the Galaxy A7 will be attractive. (Note that a Single-SIM version of the Galaxy A7 is also available.)

The A7 has a fingerprint scanner built into the home button, and this is quick to recognise input. You'll also find standard connectivity features including dual-band 802.11n Wi-Fi, Bluetooth 4.1, NFC, GPS and GLONASS. You won't find the Galaxy S6's extra features such as a heart-rate scanner here, but we don't suppose its loss would put off too many customers.

Cameras

The Samsung Galaxy A7 is fitted with the same cameras as the Galaxy A5, which means there's a 13Mp, f/1.9 camera with a single-LED flash at the rear, and a 5Mp, f/1.9 selfie camera at the front. As it did when it upgraded the Galaxy S5 to the Galaxy S6, Samsung has added optical image stabilisation. Everything else is the same.

Unsurprisingly, we found the same photography performance as we did from the Galaxy A5: the

Auto settings

camera isn't as good as the 16Mp model found in the Galaxy S6, but it does capture a fair amount of detail (you can make out the Midland Road street sign in a photo captured from our 7th floor roof terrace, for example), with accurate exposure and the lens is sharp right to the corners.

The camera app features various modes including HDR, Pro, Continuous Shot and Panorama, or you can shoot full-HD video at 30fps.

Check out our test shots of St Pancras Renaissance Hotel above.

Software

As we prepare for the launch of Android Nougat, it's disappointing to find the now two-year-old

Android Lollipop 5.1.1 OS preinstalled on the Galaxy A7. We hope it will be updated to Android Marshmallow, which can now be found on its flagship S series, although we wouldn't necessarily hold out for a future upgrade to Nougat.

The TouchWiz UI is overlaid, but with few of the features found further up the range. For example, there's no Smart Stay, no Pop-up view and no Multi-View Window, nor the new screenshot functionalities seen in the S6 and S7. You might like the Galaxy A7's dumbed-down Easy mode for novice users, and Smart alert, Easy mute and Palm swipe to capture gestures.

TouchWiz differs from standard Android most noticeably in the drop-down notification bar, with

a row of circular quick-access toggles and shortcuts to S Finder and Quick connect, the layout of the Settings menu, and the extra apps installed by Samsung. And there are rather a lot of these, from Samsung's own apps for browsing the web and playing media to Microsoft apps for Word, Excel, PowerPoint and OneNote, and the likes of S Health and the Galaxy Apps store. Of that 16GB of internal storage you can expect to have around 9GB available to you.

Verdict

The new Samsung Galaxy A7 for 2016 is a great-looking upgrade over its predecessor, with outstanding battery life and a few other welcome tweaks, but there is no escaping the fact it is overpriced at £399. That's even more apparent when you consider the better-specified, more fully featured and significantly faster Galaxy S6 is available for £40 less.

Specifications

- 5.5in full-HD (1920x1080) SuperAMOLED display with Gorilla Glass 4
- Android 5.1 Lollipop with TouchWiz
- 1.6GHz Exynos 7850 64-bit octa-core processor
- 3GB RAM
- Mali-T720 MP2 GPU
- 16GB storage
- MicroSD support up to 128GB

- 4G LTE Cat 6
- Dual-SIM dual-standby
- Fingerprint scanner
- Dual-band 802.11a/b/g/n Wi-Fi
- Bluetooth 4.1
- GPS, GLONASS
- NFC
- 13Mp, f/1.9 rear camera with single-LED flash and OIS, full-HD video at 30fps
- 5Mp front camera
- 3300mAh non-removable battery with Adaptive Fast Charging
- 151.5x74.1x7.3mm
- 172g

Review: Vodafone Smart Platinum 7

£295 inc VAT • vodafone.co.uk ★★★★☆

Famed for its longevity in the UK mobile network market, Vodafone currently sells five own-brand smartphones (three of which are in our best budget smartphone chart on page 124). While a slight generalisation, they all aim to bring the user 4G connectivity and access to the Android app world on varying budgets. The latest is the Vodafone Smart Platinum 7, and it's aimed squarely

at people who might be considering high-end flagships such as the Samsung Galaxy S7.

Design

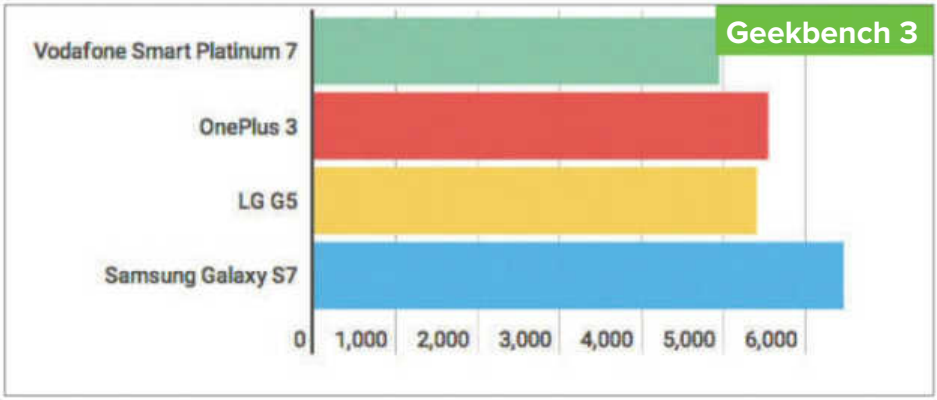
As you might expect, Vodafone's phones aren't design marvels, taking the tried and tested 'black rectangle' form. Thankfully, the Platinum pushes the boat out a bit given it is at the higher end of the range.

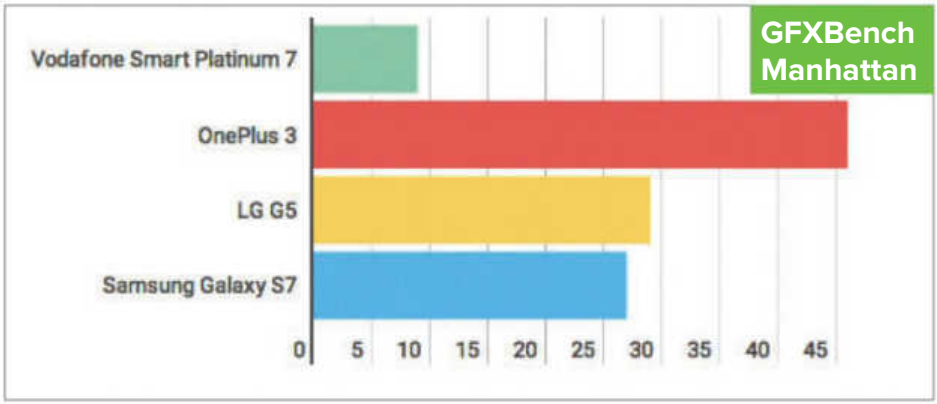
For a smartphone with a large 5.5in screen it's the perfect weight, heavy enough to feel premium but won't weigh down your pocket or bag. It measures 154x76x7mm, making it very similar in dimensions to the 192g iPhone 6s Plus, but much lighter than that phone at a manageable 155g.

Be aware we are in distinctly phablet territory, so if you've got smaller hands this is going to prove slightly cumbersome to use, particularly with one hand. The advantages are that long-form documents are easier to draft and everything from spreadsheets to videos better to view. You might even use your tablet less, which is a good thing if you're looking for one device to all your mobile activity on.

The front and back are covered in Gorilla Glass. The back has an attractive diamond cut detailing, which is also present on the physical buttons on the Platinum's sides. This gives the phone a distinctly masculine feel, so you may want to check it out in person before buying.

There's a subtle Vodafone logo on the back, along with the camera, which protrudes a tad from the casing. Just underneath this is the circular fingerprint reader, yet another attractive feature

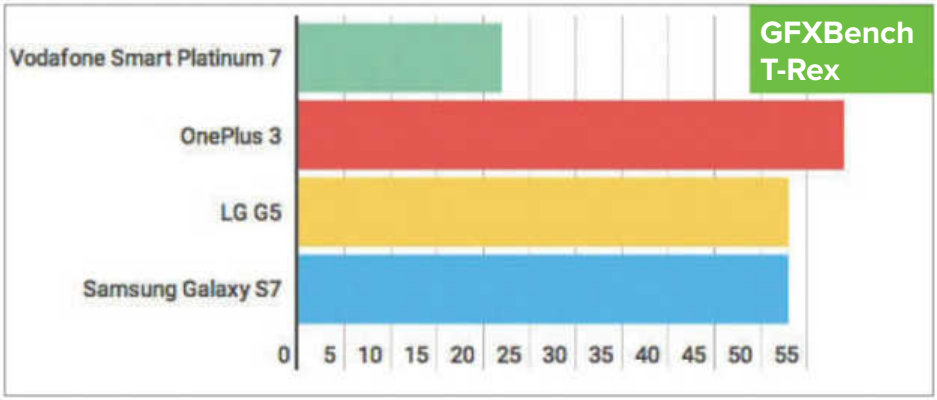


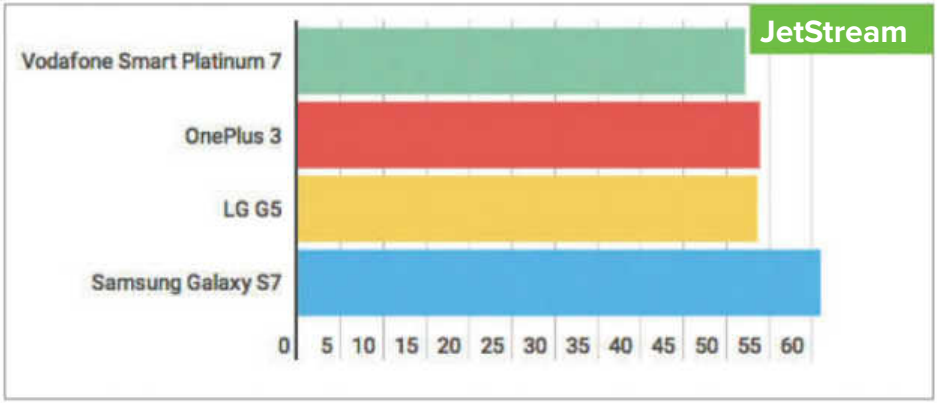


crammed into this sub-£300 handset. The front is iPhone-like in its bezel design but we love the thin, wide speaker grills at the top and bottom of the front, lending further to the Platinum's premium aspirations. It's very well made, but a shade less interesting to what we've come to expect from a high end device.

Hardware and performance

The Smart Platinum 7's headline specs are its AMOLED touchscreen with 534ppi pixel density,





3GB RAM and 16Mp rear-facing camera. As is the case with many smartphones in 2016, the 3000mAh battery is non-removable, but there is a microSD card slot to boost the 32GB internal storage with 128GB more if you fancy putting several seasons of the Sopranos in your pocket. While initial stocks last, the phone comes bundled with a free Smart VR headset, allowing you to view various third-party VR content hands-free.

The phone is charged via Micro-USB 2.0, which we were happy to see supports fast charging

with the bundled charger; Vodafone claims you can charge half the battery in 30 minutes and our real-life use confirmed this as true. In a Geekbench battery rundown test, the Platinum lasted a respectable but not outstanding seven hours, 32 minutes. Fast charging is a great feature, but we do feel like it's a compromise for having a battery that runs down too fast.

We ran the usual Geekbench and JetStream tests on the Platinum against the flagship phones we believe it's fighting against in the market. Higher scores are better, and as you can see in the charts below, it's in these graphically intensive tests where the Platinum's QuadHD display and mid-range processor struggle.

We were initially disappointed in the use of the mid-range octa-core Qualcomm Snapdragon 652 chip, considering the similarly priced OnePlus 3 has the superior 820 (and double the Platinum's RAM at 6GB). Objectively, this is extreme tech-hack nitpicking, but it's worth pointing out that Vodafone has skimped a little on the internals, presumably to keep the price below £300.

Our benchmarking of the two phones against one another reflects this, but it is worth reiterating that in our extended use of the Platinum, we encountered barely any lag in every day app use, video streaming, emailing and umpteen other things. We recorded a download speed indoors of 11.9Mb/s on Vodafone's 4G network, which is great – clearly the hardware can handle high download speeds for music streaming and app downloads on the go.

Camera

The 16Mp camera is decent, but the overall experience does give away the phone's lower price where other aspects like its screen and build quality reflect its premium leanings. The camera app includes an array of different modes that we have come to expect from our smartphones, from slo-mo to macro, HDR to panorama. It's pleasant to use even if the end results aren't the best.

Photos contain good levels of detail but are grainier on closer inspection than that which we have seen on the likes of the LG G5. These are higher end phones in terms of hardware specs and price, however this fact conversely once again highlights the advantages of the

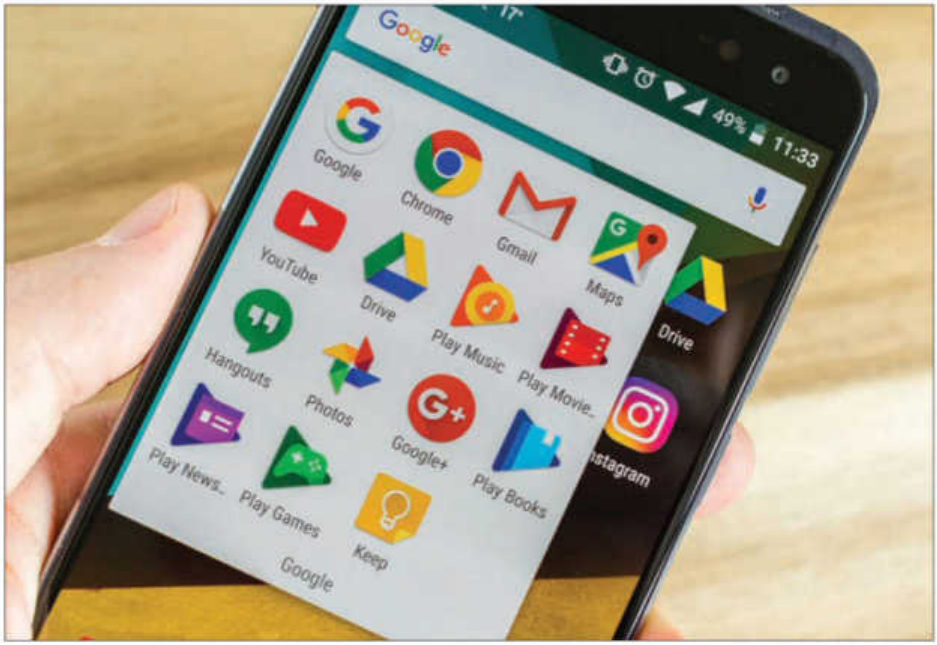
Platinum's excellent price point as the camera is above average.

The design also incorporates a dedicated camera button, something we always welcome – you double-click it to launch the camera app. One niggle is that the camera button is on the top lefthand edge, so using the camera right-handed as the phone dictates means it's hard not to cover the lens with your right hand. We prefer designs where such buttons are on the bottom right as you look at the phone portrait, as opposed to top left.

Software

The Platinum runs Android Marshmallow 6.0.1 right out the box, and we were impressed with the ease of the set up. Vodafone has opted for nigh-on stock Android here, so it's Google all the way. We were easily able to transfer our entire existing Android phone's apps, contacts and data over to the Platinum via Wi-Fi and NFC thanks to excellent set up instructions, and were using it within minutes.

There is the option to turn on little pop ups that guide you through the use of your phone on first-time tasks. These could be handy if you are new to Android but we found them annoying. It is the only example here where Vodafone patronises the user – in the past, many operator branded phones have made the mistake of coaching people through the phone at all times. It's nice to see that Vodafone has abandoned the incorrect assumption that those who buy these phones are tech illiterate, but still included relatively subtle prompts for those that need help.



The choice to use stock Android makes the phone feel like a Nexus device, which is no bad thing. The only signs of dreaded operator bloatware are in the apps Vodafone politely cajoles you into downloading/using/ignoring. They aren't as intrusive as we had feared, letting you easily uninstall what you don't want. We ended up using the SMS app Message+ rather than the standard messaging app, as it adds useful multimedia options.

The home screen is a blank canvas for you to customise, and apps run slick with the hardware. The fingerprint sensor software integrates with apps you might expect to use it, like banking apps and the Play Store. However, we found it frustrating to use given its position on the rear of the phone.

It does work, but the button is small and doesn't protrude, so sometimes if your finger isn't flush with it, it won't read it properly. We still prefer using such sensors when they are on the front or edges of devices.

Verdict

After time with the Platinum it becomes clear that this is a premium phone, but one attempting to be ever so slightly more premium than it actually is. Also bear in mind that the phone is locked to the Vodafone network. If you want the best Android phone on the market, get a Samsung Galaxy S7. However, if you want to buy a smartphone outright without breaking the bank and are after a larger screen, fingerprint sensor, stock Android and great design), then this is a solid choice. **Henry Burrell**

Specifications

- 5.5in (2560x1440, 534ppi) display
- Android 6.0.1 (Marshmallow)
- 1.8GHz quad-core Snapdragon 652 processor
- Adreno 510 GPU
- 8Mp front-facing camera
- 16Mp rear-facing camera
- 32GB storage
- MicroSD up to 256GB
- 3GB RAM
- Wi-Fi 802.11 a/b/g/n/ac;
- NFC
- 3000mAh battery non-removable
- Micro-USB
- 154x75.7x7mm
- 155g

Review:
Xiaomi Mi Max

£212 inc VAT • xiaomi-mi.com ★★★★☆

Xiaomi's Mi Max is a beast of a smartphone, with a hulking 6.44in screen, decent performance and a mammoth battery.

Price

Our review unit came from GearBest, which offers free shipping to the UK, though you will more than likely be called on to pay import duty on its arrival in the UK.

As we will discuss below, you get an awful lot of phone for your money with the Mi Max, making it incredible value – especially to those of us used to

paying in excess of £600 for phones of this quality. However, UK users should note there will be a few differences to the phones that are officially sold inside the UK.

First, although our review sample was preinstalled with Google Play, Xiaomi phones are not usually distributed running the software. If yours isn't you can easily download it yourself from the included Mi App Store, at which point you will probably also like to download a UK keyboard such as the Google Keyboard.

As it stands you'll find some Chinese preinstalled apps on the Mi Max (some of which you can uninstall; others can be tucked away from view in a dedicated folder), but on the whole it's easy to find your way around.

Checking which frequency bands are supported by your network is also important when buying a phone such as the Mi Max. In the UK, for example, it supports the 1800- and 2600MHz 4G LTE bands, which is fine for all operators except O2, which relies solely on 800MHz for 4G (also Giffgaff and any other operators that piggyback O2's network). You can still use the Mi Max on those networks, but you can't use 4G.

Design

We'll start by stating the obvious: the Mi Max is enormous. Measuring 173x88mm and weighing 203g this is the largest phone we have ever reviewed. And yet it is incredibly thin – just 6mm thick – which stops it becoming overly unwieldy. It's almost impossible to believe there is a 4850mAh battery inside, which promises excellent runtime.

The Mi Max is too big for this reviewer, but Xiaomi has made several software tweaks that make it easier to manage, and for many people it will be an ideal device for uses beyond making phone calls and sending texts (though the large screen will also come in handy here for those with eyesight problems). If you want to play games, view films and video, use a smartphone for navigation or as a drone flight controller, you absolutely can't beat a huge-screen phone – and that's exactly what we have here.

The Xiaomi Mi Max is fitted with a 6.44in full-HD screen, which runs virtually edge to edge (a thin black border surrounds it), and there is space at top and bottom for the back-, home- and recent buttons, and a speaker and front camera. This is a 2.5D curved-edge panel, which combined with the slightly curved rear edges of this handset, make it easier to hold, with everything sitting flush to

everything else. The screen is very decent, crystal clear and with good brightness and contrast, and excellent viewing angles.

Build quality is impossible to fault. This is a metal unibody smartphone with a fingerprint scanner set into the rear, an easy index finger's reach up as you cradle the Mi Max in your palm. Twin speaker grilles sit either side of the bottom-facing Micro-USB port, and a power button and volume rocker sit just within reach of the thumb on the Mi Max's righthand side. Up top is a 3.5mm headphone jack and, something that is becoming increasingly rare these days, an IR blaster.

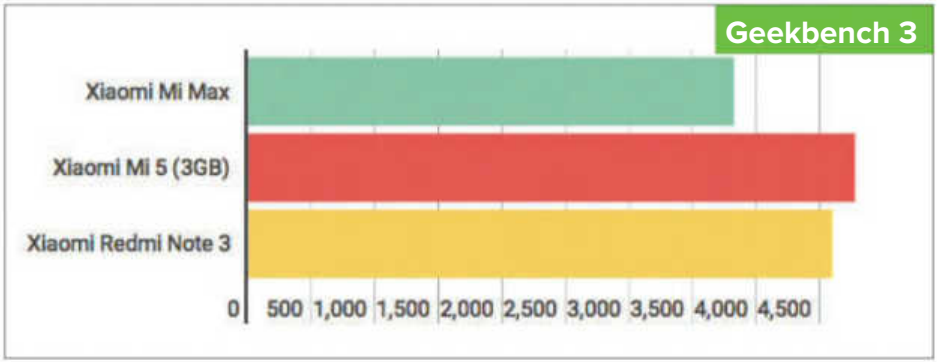
Despite its enormous size, the Mi Max is a very good-looking phone: it's big and it's beautiful.

Performance

That's not all the Mi Max has going for it either, since performance is outstanding at this price point – in general processing, in graphics and in runtime. We ran the Mi Max through our usual benchmarks, for which you can see the results below, but it's important to note that even in real-world use this phablet feels fast and capable of whatever task you have in mind.

That's not a huge surprise, fitted as it is with a hexa-core, 64-bit Qualcomm Snapdragon 650 processor clocked at 1.8GHz, the Adreno 510 GPU and 3GB of RAM. Clearly flagship octa-core phones with 4GB (or now even 6GB) of RAM will outperform it, but this is sufficient muscle for everyday phone jobs.

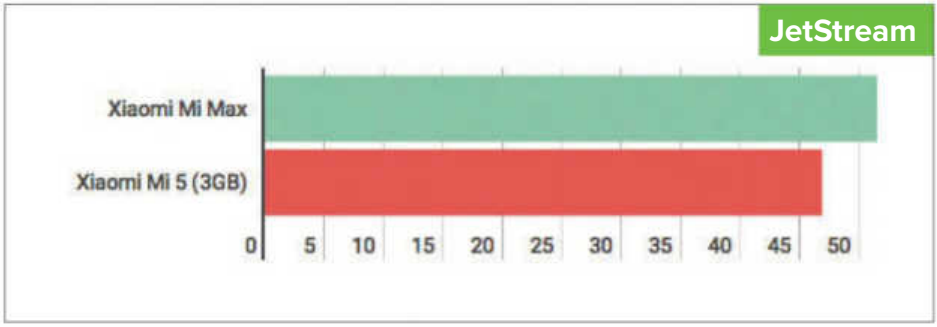
More compelling still is the amount of storage packed inside this Xiaomi, with 32GB as standard



(of which around 26GB is available) and an extra 128GB possible through microSD (though you will forfeit the second SIM slot in doing so). See all smartphone reviews.

And battery life is immense. We have seen smartphones outperform its 10-hour-dead Geekbench 3 result (6001 points), but none with a screen of this size. The battery doesn't support wireless- or 'Quick' charging, but it is ridiculously capacious at 4850mAh.

For general performance analysis we ran the Mi Max through Geekbench 3 and AnTuTu 3D, and it



managed respectable scores of 3825- (multi-core) and 74,156 points respectively.

Graphics performance also proved to be better than most phones we review at this price, with the Mi Max turning in a headline result of 34fps in the onscreen component of GFXBench 3 T-Rex. We also clocked it at 15fps in Manhattan, 10fps in Manhattan 3.1, and 6fps in Car Chase. This is a phone easily comfortable with casual gaming and movies. JetStream is a tool we use to look at JavaScript performance, and here the Xiaomi's 51.53 result is ahead of even the Xiaomi Mi 5 (46.9), and not too distant from the leader of our Android phones chart – the Galaxy S7 edge turned in 66.1.

Connectivity

We've touched on this earlier within this review, but the Xiaomi Mi Max is a 4G LTE Dual-SIM dual-standby phone – excellent for separating work and play, but with some limitations. Firstly, it doesn't support the 800MHz 4G band in the UK, leaving some customers (particularly those of O2 and Giffgaff) in slower 3G territory. Secondly, you use the extra SIM slot at the expense of microSD support – though with 32GB of storage built in that may prove not to be too much of a hardship.

There's no support for NFC, but the Xiaomi covers all other connectivity bases. There's a decent fingerprint scanner, an IR blaster, 802.11ac Wi-Fi, GPS and Bluetooth.

Cameras

The Mi Max is fitted with a 16Mp, f/2.0 camera at the back and a 5Mp, f/2.0 camera at the front. We found it took decent enough photos with vibrant colours and no glaring issues. As usual some missing detail is evident when viewed at full-size, but not enough that you can't read a street sign from our seventh-floor roof terrace. On the whole, the Xiaomi is a good smartphone to have on hand when a photographic moment arises.

You get the same camera software as you do with other Xiaomi phones, which means a selection of real-time filters sit a swipe in from the right of the main camera interface, while camera modes are a swipe to the left. You'll find the usual suspects, including panorama, timer, manual and beautify, as well as HHT, Tilt-shift and Fish-eye. Pressing and holding the shutter button can

activate a burst mode, while HDR mode is accessed from the main camera screen. We found it did a good job of sorting out the shadows in our test shots (you can see our test pictures of St Pancras Renaissance Hotel (above), first in Auto mode and second in HDR).

For video recording you can choose between standard (up to 4K video recording is possible), time-lapse and slow-motion modes, although we found the resulting footage a little jerky and sharp.

Software

The Mi Max will be one of the first phones to run the MIUI 8.0 custom UI when it becomes available in August. Until then, our review sample is running

MIUI 7.3 (based on Android 6.0.1). As we've said many times before, Xiaomi phones aren't the best-suited to novice users, since out of the box they don't (usually) offer Google Play and there are several preinstalled Chinese apps and a Chinese keyboard. These are all things that are easy enough to sort out with a little know-how.

That's assuming that the absence of Google Play and Google apps will be problematic to you, of course, and actually MIUI is a decent Android OS in its own right, with apps for just about everything you need, including email and media playback.

There are some nice features in MIUI, but also some notable differences. There is no app tray, for example, with app icons laid out on the home

screen in an iOS-like fashion. The drop-down notification bar is also different, with a selection of quick access settings as you might expect but also a second pane for your notifications. And the Settings menu itself has a slightly different layout – it took us forever to discover how to adjust the screen timeout, which is not in the Display menu but in the Lock screen and password menu.

A couple of software features can make it easier to deal with – or perhaps benefit from – the enormous screen on the Mi Max: one-handed mode shrinks the screen size down to 4.5-, 4- or 3.5in with a simple gesture, while the ability to shrink or enlarge the system font and text size can either fit more onscreen or make full use of that space.

You'll also find quite a lot in the way of customisation, with a number of themes available, plus the ability to tweak the notification LED colour. A pinch on the home screen brings up options to move apps, add widgets and alter the wallpaper and effects (the transitions as you move between home screens).

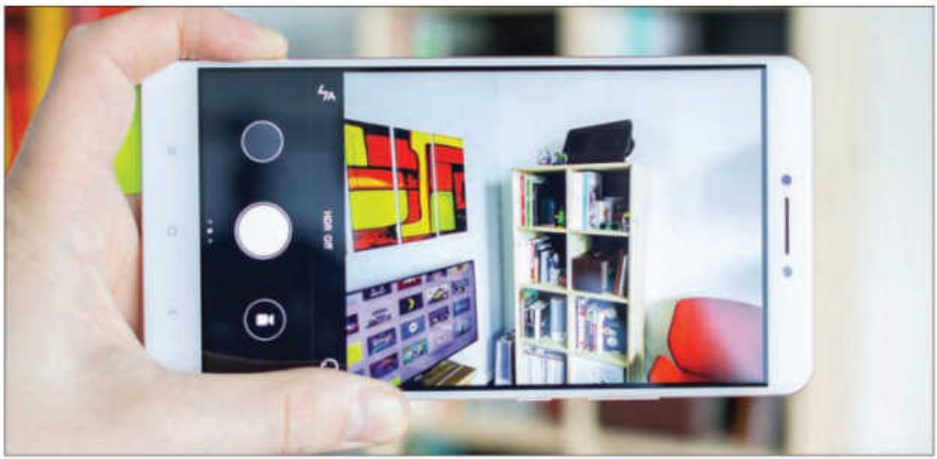
We also like the Child mode, which lets you allow access only to certain apps installed on your phone before handing it over to the kids.

Verdict

If you want a huge phone and you don't want to pay as large a wedge of cash, the Xiaomi Mi Max is a fantastic phablet with good looks, decent performance, strong runtime and, most importantly of all, a gigantic screen. Not ideal for novice users, but otherwise the Mi Max is a highly recommended smartphone. **Marie Brewis**

Specifications

- 6.44in full-HD (1920x1080) 2.5D display
- Android 6.0 Marshmallow with MIUI 8.0
- 1.8GHz Qualcomm Snapdragon 650 64-bit hexa-core processor
- Adreno 510 GPU
- 3GB RAM
- 32GB storage
- Dual-SIM dual-standby (or use one SIM slot for microSD up to 128GB)
- 4G FDD-LTE 1800/2100/260MHz
- 802.11a/b/g/n/ac Wi-Fi
- Bluetooth
- GPS
- Fingerprint scanner
- IR blaster
- 16Mp, f/2.0 rear camera
- 5Mp, f/2.0 front camera
- 4850mAh non-removable battery
- 173x88x6mm
- 203g



Review: Leagoo Shark 1

£121 inc VAT • leagoo.com ★★★½☆

The Leagoo Shark 1 is all about power – battery power. With a huge (world-leading) 6300mAh battery and quick-charge technology, it could well be the phone to buy if you're looking for a best battery life phone. You can pick up the Leagoo Shark 1 from GearBest, where it costs £121 with free delivery to the UK, but note that you may have to pay import duty.

Is this the best battery phone?

Yes, and no. For now, the Leagoo Shark 1 does (to our knowledge) contain the highest-

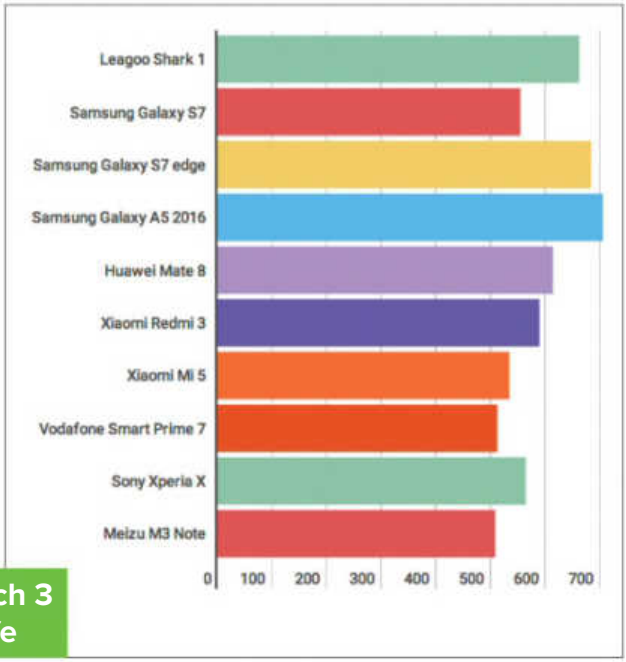
capacity battery of any smartphone on the market at 6300mAh. Do note that Oukitel will shortly be launching a phone with an incredible 10,000mAh battery.

Of course, having the highest-capacity battery doesn't necessarily mean it is the longest lasting, because actual runtime depends on what you do with the phone, and on how energy-efficient is the software and hardware. Leagoo claims up to 770 hours on standby, 72 hours of general usage, 25 hours of video or 49 hours of music.

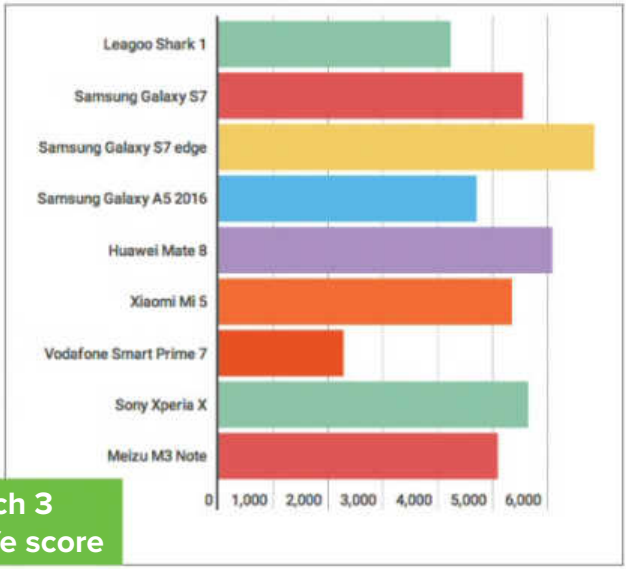
In our tests of various smartphones we were intrigued to find that although the Shark 1 has by far the biggest battery, both the Samsung Galaxy S7 edge and Samsung Galaxy A5 2016 have been able to perform better in the Geekbench 3 battery life test. Not that we should do down its incredible 11-hour, three-minute score in this benchmark.

Arguably just as important as how long the Leagoo's battery lasts is how fast it is to charge. Leagoo specifies quick-charging technology known as LQC 3.0. This is not the same thing as Quick Charge 3.0, which is for Qualcomm processors (the Shark 1 has a MediaTek chip), but it is fast, able to boost the charging current accepted by the phone from 2- to 3A.

Leagoo markets the Shark 1 with the slogan "30 mins to charge, 1 day to enjoy". Obviously you aren't going to charge the entire 6300mAh battery in 30 minutes, but you could get enough runtime for a full day's use from a 30-minute charge. When the battery is full (or even when it's not if you're feeling really generous), OTG support means you could potentially use the Shark 1 as a power bank



Geekbench 3 battery life



Geekbench 3 battery life score

for charging another phone, helping both get through a full working day. For this you'll need an OTG adaptor, though, which is not supplied in the box. Note that the battery inside the Leagoo Shark 1 is a non-removable lithium-polymer unit, which does not support wireless charging.

Design

Given the size of the battery inside the Leagoo Shark 1, its width of just 8.5mm is incredible. Of course, this has been made possible partly because the phone itself is so big: with a 6in screen you could find the Shark 1 rather unwieldy to use in a single hand – especially when you take into account its 241g weight. There are some provisions within the software to make handling easier, which we'll come to later.

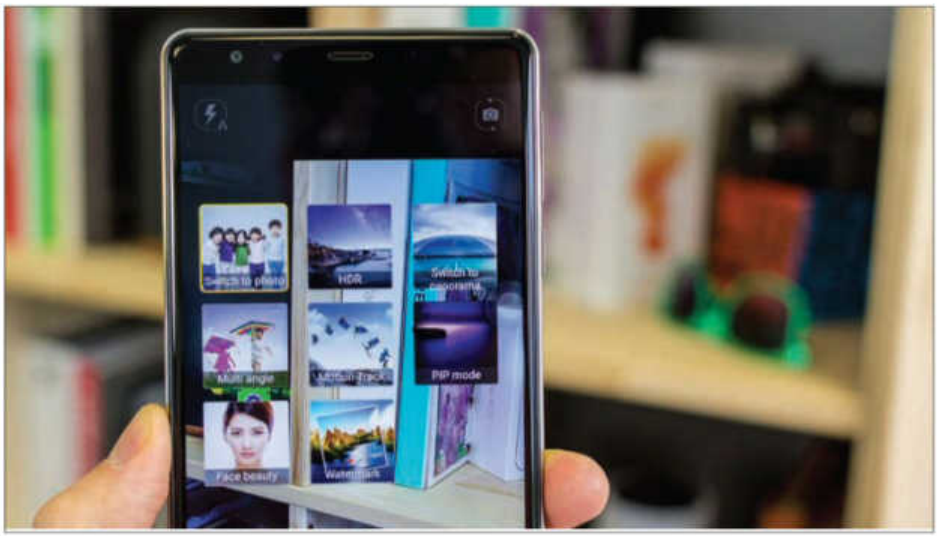
Leagoo has done what it can to shrink down the size of the Shark 1, with narrow screen bezels, onscreen navigational controls and a rear-mounted fingerprint scanner. The edges are slightly rounded at the rear, and the 2.5D curved glass adds to that streamlined finish, but we think Leagoo could have gone a little further in the rounding of this device to make it easier to hold. A matt surface wouldn't have gone amiss either; while the metal rear plate looks good it doesn't have any grip.

The Shark 1 is built around a metal frame, but unlike its marketing would have you believe it is not a metal unibody phone. At the rear you'll find plastic panels at the top and bottom – most likely to help avoid signalling issues – and you'll clearly feel the difference as you run a fingertip across the back. The camera sensor and dual-

tone flash sit in the top panel, almost entirely flush with the casing, while a speaker grille is found in the bottom panel. We aren't usually enamoured by rear-facing speakers, but Leagoo has at least added two little plastic protrusions either side to keep it from lying completely flat on a desk or other sound-muffling surface.

The Leagoo logo is etched on to the middle panel, at the bottom of which sits the usual legends, European Conformity logo and so forth. The 'Huge Battery 6300mAh Smart Phone' legend did make us grin.

Something that is becoming increasingly rare is the IR blaster found on the top edge of the Leagoo, opposite the 3.5mm headphone jack – and you'll find a camera flash on the front, too. On the right side sits a volume rocker and power button, and Micro-USB for charging and data transfer at the bottom. AA SIM tray sits at the top-left edge, able



to accommodate either two Micro-SIMs or one SIM and one microSD card for storage expansion.

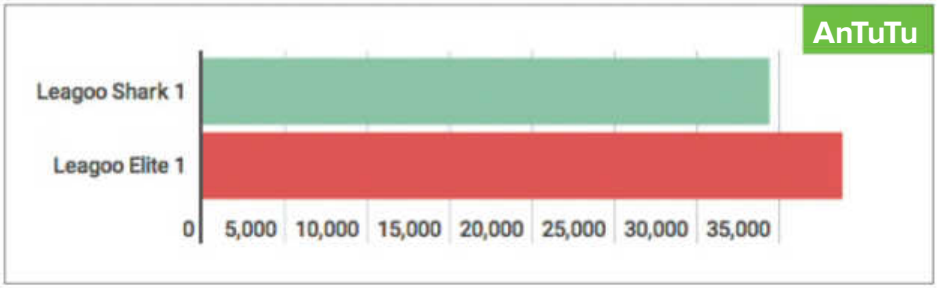
The screen is possibly the second-best feature following this phone's huge battery. While it's way too big for my personal tastes, there are a lot of customers out there looking for large-screen phones. Whether you have poor eyesight, wish to use the phone as a satnav, or maybe it's just your thing, the Leagoo Shark 1 is a huge 6in on the diagonal.

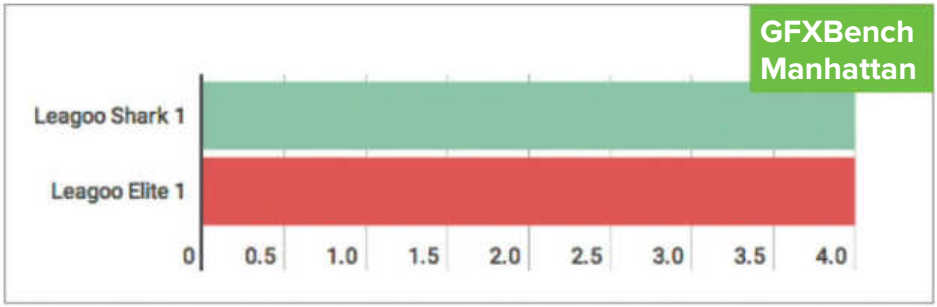
This is an LTPS display made by LG with a full-HD resolution of 1920x1080 pixels, equating to a pixel density of 368ppi. That's pretty sharp – sharper than the iPhone's Retina Display – and it also offers reasonable brightness and realistic colours. Gorilla Glass 3 protects the display from damage, helping to protect this beast of a smartphone should it slip out your hand.

Performance

If you're after battery power the Leagoo Shark 1 has it in spades, but for general processing- and graphics power it's nothing special. That's a good thing for runtime, since there's nothing here to drain the battery, but it won't be too happy when tasked with overcomplicated 3D games and multiple duties.

Leagoo has fitted a 1.3GHz MediaTek MTK6753 64-bit octa-core processor, which is based on the ARM Cortex-A53 and builds in Mali-T720 graphics. There's also 3GB of DDR3 RAM, plus 16GB of storage. That might not sound like a generous amount of space for your files and media, but remember that this is a £120 phone, and many UK





budget phones still come with just 8GB. And, as we mentioned earlier, you can add up to 64GB using microSD at expense of a second SIM.

There isn't a huge gap in performance between this Shark 1 and the smaller (5in screen) Leagoo Elite 1 we reviewed previously, although the Elite does have the edge for processing power. We ran the Shark 1 through our usual benchmarks and

recorded 2228 points in Geekbench 3 (multi-core) and 34,423 points in AnTuTu 3D, suggesting the Leagoo is up to the daily needs of most users.

Graphics performance is less impressive, with just 12fps in GFXBench T-Rex and 4fps in Manhattan. You won't be able to play the most intensive games, but that 6in full-HD screen will still be useful for casual games and video streaming.

Our final test is JetStream, a JavaScript test, and here the Shark 1 managed 18.778 – about average for a budget Chinese Android phone.

Connectivity

The Leagoo Shark 1 bucks the trend for budget Android phones with the inclusion of an IR blaster. Other features such as the Dual-SIM dual-standby functionality, microSD support and fingerprint scanner are above and beyond when compared with budget UK phones, yet standard in China.

Pleasingly, the Shark 1 will work with all three UK 4G LTE bands – 800MHz, 1800MHz and 2600MHz – though users from elsewhere should check the specification before purchasing. Here's how to tell whether a phone is supported by your network.

You get Wi-Fi, Bluetooth 4.0 and GPS, but one thing that is missing is NFC. There's HotKnot, which is the MediaTek equivalent, but that won't help you if you want to make use of Android Pay.

Cameras

The cameras are fairly standard for a budget Chinese phone, with a 13Mp, f/2.0 Sony camera with dual-tone LED flash and PDAF at the back, capable of 1080p video, and a 5Mp, f/2.4 front

Auto settings

camera – interestingly, complete with a front flash to help with low-light usage.

We quite liked the colours in our test shots (which you can admire first in Auto mode and second in HDR above), but there seems to be rather a lot of sharpening going on – especially in HDR mode – and the loss of detail is evident even without viewing at full-size. They're nice photos for a budget smartphone, though, and you can't really expect a lot more.

The Camera app is not the standard Google version, since this phone is running Leagoo OS 1.2 over Android 5.1 Lollipop. It's simple to user, though, and with a swipe up or down the screen you can switch between video, auto and pro modes. Various

other modes including HDR, Panorama, Multi-angle, Motion Track, PIP, Face beauty and Watermark can be selected from the menu. Three dots onscreen offer access to the Settings menu, face detection and real-time colour effects.

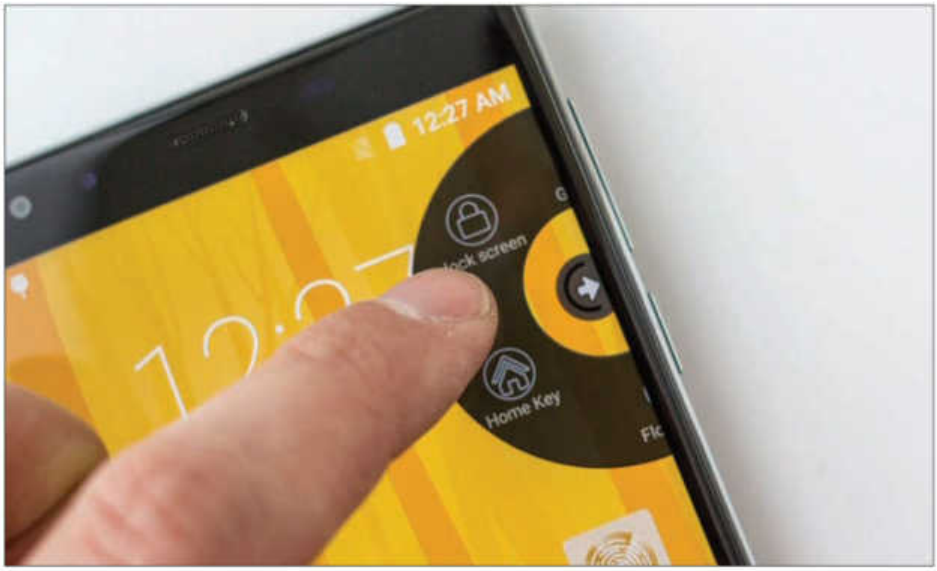
When using the selfie camera you can turn on or off the mirror effect, but you don't see the results until you take the photo. And we weren't overly impressed with its beauty mode, which simply blurs your face. But the front flash is a nice feature.

Software

We're disappointed to find the Leagoo Shark 1 runs Android Lollipop rather than the newer Marshmallow, but it doesn't actually look anything

like Lollipop. The app tray has been removed, with all your apps now shown on various home screens. A music player sits a swipe in from the left of the main home screen, and a gallery timeline is a second swipe away. You'll also find differences in the layout of the drop-down notification bar, and in the Settings menu, which defaults to a Quick setting pane for access to the most common controls, while General settings are found on a second tab.

As we mentioned several times earlier the Shark 1 is a huge phone, and as such Leagoo has implemented some software tweaks to make navigation – particularly in one hand – easier. The standard Android back, home and recents buttons sit onscreen (not at all times – you can flick up from the bottom of the screen if they aren't visible), and are joined by a fourth control that pulls down



the notification bar without you needing to stretch your thumb to the top of the screen. In single-hand mode these buttons are squashed up into the right half of the screen to make pressing them even easier, although you can't move these over to the left for left-handed users.

Likewise, One Hand-Operate mode can reduce the size of the phone dialpad, but here you can opt to have it sit on the left or right of the display.

Assistive Touch places onscreen a floating button with options to lock the screen, go home, float video or music, or open a pop-up window into which you can draw a gesture to open a certain app (created by you in the Gesture Builder). You can also draw letters on screen from standby to wake the phone and automatically launch an app (this is customisable).

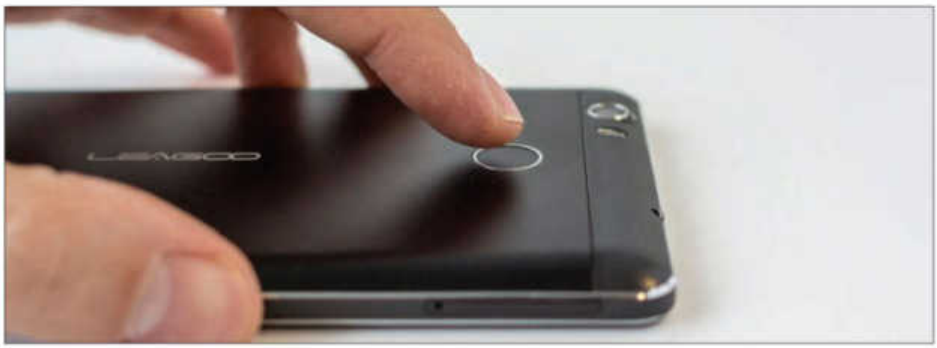
Various other gestures, such as flipping the phone to mute a call or answering by putting it to your ear are also supported, plus there's a Game Mode that disables the back and menu keys, and Smart stay which prevents the screen timing out when you're looking at it, perhaps when watching a video. The LED notification light can also be colour-customised so you know whether you've missed a call, text or other type of notification before you pick up the phone.

Verdict

It has a huge battery and a huge screen, making it a perfect fit for some customers and unwieldy for others. Whatever your take, the Leagoo Shark 1 offers fantastic value for money, if only its general performance lived up to its battery power.

Specifications

- 6in full-HD (1920x1080, 368ppi) LG LTPS display with 2.5D Gorilla Glass 3
- Android 5.1 with Leagoo OS 1.2
- 1.3GHz MediaTek MTK6753 (ARM Cortex-A53) 64-bit octa-core processor
- Mali-T720 GPU
- 3GB DDR3 RAM
- 16GB storage
- Up to 64GB microSD (at expense of second SIM)
- 4G LTE (FDD-LTE 800/900/1800/2100/2600MHz)
- Dual-SIM dual-standby
- Wi-Fi
- Bluetooth 4.0
- GPS
- OTG
- IR blaster
- Micro-USB
- Rear-mounted fingerprint scanner)
- 13Mp, f/2.0 Sony rear camera with dual-tone flash
- 5Mp, f/2.4 front camera with flash
- 6300mAh non-removable lithium-polymer battery
- 158.6x82.8x8.5mm
- 241g



Review: Meizu M3 Note

£142 inc VAT • meizu.com ★★★★☆

We've been looking forward to testing a Meizu phone for a while and, although the M3 Note is impressive for the money, it's not a patch on the similar Xiaomi Redmi Note 3. We weight up the pros and cons of the Meizu M3 Note, and put it head to head against the Redmi Note 3.

Our M3 Note was supplied by GearBest, which charges £142.50 with free shipping to the UK. (Note that you may have to pay import duty.) Conversely, GearBest stocks the Xiaomi Redmi Note 3 for £116.76, which offers even better value still.

These are both Chinese phones and, as such, you'll find some preinstalled Chinese-language apps (all of which can be uninstalled) and in our experience you will get some notifications you can't read. This isn't a major issue, since you can still preinstall any English-language apps you wish to use, but you will need to install Google Play first. Of all the Chinese phones we have tested, it's fair to say the Xiaomi and Meizu are the least well adapted for UK consumers (which is totally fair enough, since they aren't officially sold here). However, they're also among the nicest...

Design

Given its sub-£150 price, the M3 Note has a great build. It's crafted from 6000-Series Aluminium alloy, with a unibody design that feels tough and well-made. A 2.5D glass screen lies flush, as does the rear camera sensor, and rounded edges make the phablet feel relatively comfortable in the hand, given its size.

It still feels a little chunky, though, at 8.2mm and 163g, but this we can forgive given the generous 4100mAh battery (long runtime is a huge plus point) and large 5.5in full-HD screen. It's a few millimetres taller than the Redmi Note 3, which puts its fingerprint scanner on the rear, whereas here it's built into the physical home button.

There are no back or recents buttons, though, which we found incredibly difficult to get our heads around, and a feature of iPhones that we strongly dislike. It is possible to activate a Smart Touch floating button that can be customised to offer these options, but it's really not the same thing.

Aside from this you'll find everything where you would expect, from the power button and volume rocker on the right edge to the Dual-SIM tray on the left and headphone jack on top. One area the Meizu gets one up on the Xiaomi is with the bottom-facing speakers (the Redmi places this on the rear), with two grilles sitting either side of the Micro-USB port.

Full-HD panels of this size aren't overly common in budget phones, and even budget Chinese phablets will often specify only HD screens. It matches the Redmi Note 3 with a 1920x1080-pixel resolution, which equates to a crystal clear 403ppi. Brightness is pretty good at 450cd/m^2, colours realistic and viewing angles good. It's not an edge-to-edge screen, but the side bezels are slim. In common with the Redmi Note 3 you'll see a thin black line bordering the screen.

Performance

Meizu fits its M3 Note with an octa-core Helio P10 processor, 2GB of RAM and a Mali-T860 GPU. This combination isn't as fast as the Xiaomi's Helio X10 and PowerVR Rogue G2600 GPU, either on paper or in our benchmarks, although the Meizu feels pretty nippy in real-world use without any particularly noticeable lag.

Our only slight irritation was the pop-up that appeared every time we opened a new app for the first time, although technically this is a good thing because it ensures that you deal with app permissions properly.

We ran both phones through our usual benchmarks and found performance from the Meizu M3 Note that will be fine for most users. In terms of general processing performance it managed 2710 points in the multi-core component of Geekbench 3, and 39,886 points in AnTuTu 3D.

For graphics we run GFXBench, and here the Meizu recorded 13fps in T-Rex and 5.3fps in Manhattan. This is really nothing to get excited about, and suggests the Note won't handle anything too intense on the gaming front. However, its large screen is ideal for watching video, and the Meizu is more than capable of this.

JetStream is used to test JavaScript performance, and here the M3 Note recorded 22.809. Again, not a brilliant score, but not at all bad for a budget Android phone.

Where this phone really stands out is in battery life. Meizu claims two-day life from the 4100mAh non-removable battery, and we wouldn't suggest otherwise - the battery percentage indicator just

doesn't budge. At 92 percent (having used the phone all morning) it reported 42 hours 20 minutes remaining, so you're unlikely to need to carry a

power bank here. Our only gripe is that this huge battery doesn't support fast charge, so you will want to leave it for a full overnight charge.

The Xiaomi Redmi Note 3 has a 4000mAh battery, so the two should be fairly similar in terms of performance. In the Geekbench 3 battery life test we recorded eight hours 29 minutes with a score of 5093 points from the Meizu. It isn't the best we've seen but it is very good.

For storage you get 16GB built in, and given the price of this phone it's difficult to complain. With only Google Play installed we found we had 9.16GB of that 16GB available. Unlike the Xiaomi, Meizu does provide a microSD slot, although adding one means you will need to sacrifice the Dual-SIM functionality, since it shares the same slot as the second SIM. Without a microSD card the M3 Note will accept two Nano-SIMs, which is handy if you want a single phone for work and play, or are going abroad and wish to use a local SIM.

Connectivity

While the Meizu will accept two SIMs, it's important to note that neither slot supports the 800MHz 4G LTE band in the UK. This rules out O2 customers and those of other mobile operators who piggyback its network, such as Giffgaff. These people will still be able to get 3G on the M3 Note, but won't benefit from the Wi-Fi-like speeds of LTE for browsing. This is also true of the Xiaomi Redmi Note 3, and when buying from China you should always check whether a phone is supported by your network.

We've already mentioned that the Meizu M3 Note has a fingerprint scanner, and we were

impressed by how fast it operates and how easily it recognises your finger. We like the Xiaomi's rear-mounted approach, where it falls naturally under your finger when you pick up the phone, but here you don't even really need to think about it.

Aside from the fact there's no support for NFC, connectivity options are fairly standard. You get 802.11b/g/n Wi-Fi, Bluetooth 4.0, GPS and GLONASS. Xiaomi takes the lead here, though, with 802.11ac Wi-Fi and an IR blaster.

Cameras

In common with its Xiaomi rival, the Meizu M3 Note features a 5Mp, f/2.0 front camera and a 13Mp, f/2.2 rear camera with PDAF and a two-tone flash. It can record 1080p video from either camera, although it isn't immediately obvious how to enter video mode and we found the resulting footage rather jerky.

Auto settings

That's because, as we'll come to next, this phone is preinstalled with the Flyme 2.1 UI, a custom overlay for Android 5.1 Lollipop. The camera app is one of the places you'll really notice the difference from standard Android, although it seems to have many of the same options. The volume rocker can act as a dedicated shutter button, while holding down the capture button operates a burst mode. Camera modes include Auto, Manual, Video, Beauty, Panorama, Light field, Slow video, Macro and, interestingly, Gif.

You can see a couple of our test shots of the St Pancras Renaissance Hotel (shot from our seventh-floor office roof terrace) above. The first is shot in Auto mode and the second with HDR. The photos

look pretty good on the phone itself, but viewed at full size on a PC the lack of image stabilisation is obvious and a huge of detail has been lost from the immense blurring. HDR mode improves thing infinitely, but this certainly isn't a phone we'd recommend for its camera and, again, the Xiaomi outshines it.

Software

As we mentioned, the Meizu M3 Note runs Flyme 2.1 OS, which is a custom version of (old) Android Lollipop 5.1. Many of the apps that come preinstalled are Chinese, but you can uninstall anything that isn't shown on the first home screen - which is, incidentally, also your app tray in another

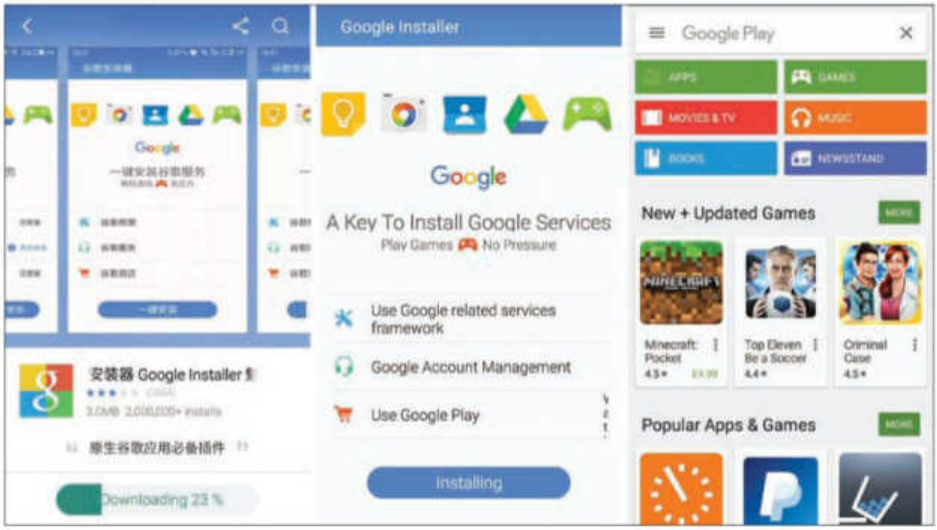
unhappy iPhone similarity, though this we can deal with better than the missing back and recent buttons. (That Smart Touch floating button just doesn't cut it for us.)

There are apps for everything you might expect to see from Google on a standard Android phone, from a Map app to an actual App Store, which means you will double up if you also want to install Google's apps. It's the same story with the Xiaomi phone, by the way, although it's not as easy to uninstall the preinstalled Chinese apps on that phone and we instead had to hide some of them away in a folder.

At this point it's import to note that Google Play is not preinstalled (although in our case when bought from GearBest it was and later stopped working, leading us to resort to a factory reset). However, installing Google Play is as simple as launching the App Store on the M3 Note, searching for Google Installer and installing it. Then click Open and again tap Install. When you attempt to launch Google Play you'll be prompted to add your Google account details.

Some things have moved around in the Settings menu, which confused us at first but we suspect you would become accustomed to this fairly quickly. For example, Storage is found under About phone (makes sense, we guess), and it's in here that you'll find the backup and restore or factory reset options.

You'll also find some additional options in the Settings menu, such as do not disturb- and easy modes, plus a personalisation menu that lets you play around with themes, wallpapers and fonts.



Various customisable gestures, such as the ability to wake the phone with a double-tap or draw a letter onscreen to wake the phone and launch an app of your choice, are found under Accessibility, Gesture wakeup.

Holding down the home button can also activate Smart Voice, which we guess is a bit like Siri, except it's Chinese and didn't understand what we were saying to it.

Verdict

The Meizu M3 Note is a great phone, with outstanding battery life and a nice metal unibody design, but it isn't a patch on the Xiaomi Redmi Note 3, which is faster and comes with a better camera, more up-to-date software and, importantly, a cheaper price tag. That said, it's difficult for us to recommend to UK users (particularly novice UK users) the Meizu M3 Note over other budget

Chinese smartphones we've tested, given that Google Play is not preinstalled and so much of it has not been adapted from Chinese.

Specifications

- 5.5in full-HD (1920x1080, 403ppi) LTPS display
- Android 5.1 with Flyme 5.1 UI
- Octa-core Helio P10 processor
- Mali-T860 GPU
- 2GB RAM
- 16GB storage
- 13Mp, f/2.2 rear camera with two-tone flash
- 5Mp, f/2.0 front camera
- Dual-SIM dual-standby
- FDD-LTE bands 1800/2100/2600MHz
- 802.11b/g/n Wi-Fi
- Bluetooth 4.0
- GPS + GLONASS
- Fingerprint scanner
- 4100mAh battery, non-removable
- Charges over Micro-USB
- 3.5mm headphone jack
- 153.6x75.5x8.2mm
- 163g

How To: Reuse an old Android phone

Bought a new phone but the old one works fine? **Martyn Casserly** reveals what to do with your original device

Music player

One of the most popular ways to recycle an old phone is to strip off all the apps and turn it into a dedicated music player. Doing this means it can then be used in a dock at home, which will also power the unit if its aging battery is struggling, or via a bluetooth speaker system. With streaming services so widely available you don't even need that much storage as long as you have an internet connection. Fancy a small juke box in the kitchen? Now you have one. Alternatively you can use an old phone as your portable MP3 player at the gym or when you're out running, thus avoiding damaging that expensive new handset in the rain.

Alarm clock

There are a wealth of alarm clock apps on the Google Play Store that will transform your old handset into a bedside companion. Simply put the unit on a stand, plug it in, and you'll have a clock that can wake you up with your favourite tunes, news on the weather outside, or leave you alone after you hit the snooze button.

Try My Alarm Clock Free on the Google Play Store (tinyurl.com/mycts3f).

Baby monitor

If you have young children then you'll know that baby monitors can be somewhat pricey and basic in what they can actually do. By using an app like Baby Monitor & Alarm you can turn an old phone into something that can not only monitor the sound in your little one's room, but also alert you of any

disturbances, and play either the baby's favourite song or a recording of your voice to keep it calm until you can get to the room.

Try Baby Monitor & Alarm on the Google Play Store (tinyurl.com/dy4w2x5).

Remote control

Many handsets have an infrared 'blaster', which means they can be used as remote controls for your TV, Blu-ray, streaming, or satellite devices. The Google Play Store is filled with various remote apps, and you can even download the official Sony app to turn your phone into a controller for the PS4.

Try Sure Universal Remote on the Google Play Store (tinyurl.com/ktrz5wj).

Security camera

With home automation becoming increasingly popular, you might be surprised to know that old Android phones can now be used as surveillance cameras for when you're out of the house. Services such as Manything allow you to stream live video feeds from your old phone to your new one, set up motion detection features, and send voice messages to comfort pets at home or warn off robbers.

Try Manything (tinyurl.com/j954d3u).

Dash cam

Dash cams have grown in popularity in recent years as they offer the chance to settle driving disputes by providing recorded video of any accidents, while also lowering insurance premiums. Android phones are a great alternative to expensive, dedicated units, especially when paired with apps like DailyRoads

Voyager. Most have the ability to record HD video, alongside GPS tracking, and with the apps you can even check live video feeds of roads on your journey to see if the weather or traffic should be avoided.

Try DailyRoads Voyager in the Google Play Store (tinyurl.com/btpzgbw).

Offline satnav

Maps are one of the most useful features on a smartphone. Thankfully you don't need a data connection any more if you want to use them on an old phone, as Google Maps lets you download areas and then get navigation to your destination, all while offline. So if you want a quick, free navigation tool for your bike – this will do the job nicely.

Give it to charity

There are a great many charities who take mobile phones as donations. This allows them, depending on their focus, to either empower people in developing nations with communications devices, or salvage parts for money that can be used in life-saving projects. If your phone is sitting in a drawer somewhere, why not think about donating it today? You'll save a little clutter and make someone else's life a bit better.

Best smartphones	 1	 2	 3	 4	 5
	Samsung Galaxy S7 edge	**Samsung Galaxy S7**	**LG G5**	**Google Nexus 6P**	**Apple iPhone 6s Plus**
Price	**£639 inc VAT**	**£569 inc VAT**	**£529 inc VAT**	**£449 inc VAT**	**£619 inc VAT**
Website	Samsung.com/uk	Samsung.com/uk	LG.com/uk	Google.co.uk	Apple.com/uk
Build rating	★★★★½	★★★★½	★★★★☆	★★★★½	★★★★½
Features rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★½
Performance rating	★★★★★	★★★★★	★★★★½	★★★★☆	★★★★½
Value rating	★★★★☆	★★★★½	★★★★½	★★★★½	★★★★☆
Overall rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★½
OS (out of box)	Android 6.0 Marshmallow	Android 6.0 Marshmallow	Android 6.0 Marshmallow	Android 6.0 Marshmallow	iOS 9
Processor	Qualcomm Snapdragon 820	Qualcomm Snapdragon 820	Qualcomm Snapdragon 820	Qualcomm Snapdragon 810	A9
RAM	4GB	4GB	4GB	3GB	2GB
Storage	32GB	32GB	32GB	32/64/128GB	16/64/128GB
MicroSD support	✓	✓	✓	×	×
Graphics	Adreno 530	Adreno 530	Adreno 530	Adreno 430	M9
Screen size	5.5in	5.1in	5.3in	5.7in	5.5in
Screen resolution	2560x1440	2560x1440	2560x1440	2560x1440	1920x1080
Pixel density	534ppi	577ppi	554ppi	518ppi	401ppi
Screen technology	IPS	IPS	IPS	AMOLED	IPS
Front camera	5Mp	5Mp	8Mp	8Mp	5Mp
Rear camera	16Mp, LED flash	12Mp, LED flash	8/16Mp, LED flash	12.3Mp, LED flash	12Mp, LED flash
Video recording	4K	4K	4K	4K	4K
Cellular connectivity	4G	4G	4G	4G	4G
SIM type	Nano-SIM	Nano-SIM	Nano-SIM	Nano-SIM	Nano-SIM
Dual-SIM as standard	×	×	×	×	×
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band
Bluetooth	Bluetooth 4.2	Bluetooth 4.2	Bluetooth 4.2	Bluetooth 4.2	Bluetooth 4.2
GPS	GPS, Glonass	A-GPS, Glonass	A-GPS	A-GPS, Glonass	A-GPS, Glonass
NFC	✓	✓	✓	✓	✓
USB OTG	✓	✓	✓	✓	✓
Extra features	Fingerprint scanner	Fingerprint scanner	Fingerprint scanner	Fingerprint scanner	Fingerprint scanner
Geekbench 3.0 (multi)	6469	6466	5404	3939	4407
SunSpider	Not tested	Not tested	Not tested	636ms	210ms
GFXBench: T-Rex	53fps	53fps	53fps	34fps	59fps
GFXBench: Manhattan	27fps	27fps	29fps	14fps	38fps
Battery	3600mAh, non-removable	3000mAh, non-removable	2800mAh, removable	3450mAh, non-removable	Lithium-ion
Dimensions	151x73x7.8mm	142x70x7.9mm	149x74x7.7mm	159.3x77.8x7.3mm	158.2x77.9x7.3mm
Weight	157g	152g	159g	178g	192g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/ZDKDRE4	TINYURL.COM/J5CQ9OU	TINYURL.COM/JES3ZUD	TINYURL.COM/NABSV4E	TINYURL.COM/OYRA5MX

Best budget smartphones

	Motorola Moto G (3rd gen)	Vodafone Smart Ultra 6	Vodafone Smart Prime 7	Vodafone Smart Prime 6	Motorola Moto E 4G 2015
Price	£149 inc VAT	£125 inc VAT	£75 inc VAT	£79 inc VAT	£109 inc VAT
Website	Motorola.co.uk	Vodafone.co.uk	Vodafone.co.uk	Vodafone.co.uk	Motorola.co.uk
Build rating	★★★★☆	★★★★½	★★★★½	★★★★½	★★★★☆
Features rating	★★★★½	★★★★½	★★★★☆	★★★★☆	★★★★☆
Performance rating	★★★★½	★★★★½	★★★½☆	★★★★★	★★★★☆
Value rating	★★★★☆	★★★★★	★★★★½	★★★★☆	★★★★★
Overall rating	★★★★½	★★★★½	★★★★☆	★★★★½	★★★★☆
OS (out of box)	Android 5.1.1 Lollipop	Android 5.0.2 Lollipop	Android 6.0 Marshmallow	Android 5.0.2 Lollipop	Android 5.0 Lollipop
Processor	1.4GHz Snapdragon 410	2.5GHz Snapdragon 615	1.2GHz Snapdragon 210	1.2GHz Snapdragon 410	1.2GHz Snapdragon 410
RAM	2GB	2GB	1GB	1GB	1GB
Storage	16GB	16GB	8GB	8GB	8GB
MicroSD support	Up to 32GB	Up to 128GB	Up to 128GB	Up to 64GB	Up to 32GB
Graphics	Adreno 406	Adreno 405	Adreno 304	Adreno 306	Adreno 306
Screen size	5in	5.5in	5in	5in	4.5in
Screen resolution	1280x720	1920x1080	1280x720	1280x720	960x540
Pixel density	294ppi	401ppi	294ppi	294ppi	245ppi
Screen technology	IPS	IPS	IPS	IPS	IPS
Front camera	5Mp	5Mp	5Mp	2Mp	0.3Mp
Rear camera	13Mp	13Mp	8Mp	8Mp	5Mp
Video recording	720p	1080p	720p	1080p	720p
Cellular connectivity	4G	4G*	4G	4G*	4G
SIM type	Micro-SIM	Nano-SIM	Micro-SIM	Micro-SIM	Micro-SIM
Dual-SIM as standard	×	×	×	×	×
Wi-Fi	802.11b/g/n	802.11b/g/n	802.11b/g/n	802.11b/g/n	802.11b/g/n
Bluetooth	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.1	Bluetooth 4.0	Bluetooth 4.0
GPS	GPS, A-GPS, GLONASS	GPS, A-GPS	A-GPS	A-GPS	GPS, A-GPS, Glonass
NFC	✓	✓	✓	×	×
USB OTG	×	×	×	✓	×
Extra features	FM radio, accelerometer	FM radio	FM radio	FM radio	Double-twist launches camera, lockscreen alerts
Geekbench 3.0 (single)	Not tested	649	Not tested	464	464
Geekbench 3.0 (multi)	1628	2469	1098	1401	1463
SunSpider	1344ms	1545ms	Not tested	1301ms	1301ms
GFXBench: T-Rex	10fps	14fps	10fps	9.4fps	13fps
GFXBench: Manhattan	4fps	5.7fps	4fps	3.8fps	6fps
Battery	2470mAh, non-removable	3000mAh, non-removable	2540mAh, non-removable	Not specified	2390mAh, non-removable
Dimensions	142.1x72.4x11.6mm	154x77x9mm	144x72x8mm	141.65x71.89x9mm	66.8x5.2-12.3x129.9mm
Weight	155g	159g	128g	155g	145g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/HTEFW7H	TINYURL.COM/07Q9NXR	TINYURL.COM/ZTLQLUZ	TINYURL.COM/Q5DSNHE	TINYURL.COM/07Q9NXR

* Locked to Vodafone. All other models here are unlocked

Best phablets	1	2	3	4	5
					
	Google Nexus 6P	**OnePlus 3**	**Samsung Galaxy Note5**	**Apple iPhone 6s Plus**	**Samsung Galaxy Note 4**
Price	**£449 inc VAT**	**£309 inc VAT**	**£499 inc VAT**	**£619 inc VAT**	**£599 inc VAT**
Website	Google.co.uk	Oneplus.net	Samsung.com/uk	Apple.com/uk	Samsung.com/uk
Build rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★☆
Features rating	★★★★½	★★★★☆	★★★★☆	★★★★½	★★★★½
Performance rating	★★★★☆	★★★★½	★★★★½	★★★★½	★★★★☆
Value rating	★★★★½	★★★★★	★★★★☆	★★★★☆	★★★★☆
Overall rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★☆
OS (out of box)	Android 6.0 Marshmallow	Android 6.0.1 Marshmallow	Android 5.1.1 Lollipop	iOS 9	Android 4.4 KitKat
Processor	Qualcomm Snapdragon 810	Qualcomm Snapdragon 820	2.1GHz Exynos 7420	A9	2.7GHz Snapdragon 805
RAM	3GB	6GB	4GB	2GB	3GB
Storage	32/64/128GB	64GB	32/64GB	16/64/128GB	32GB
MicroSD support	×	×	×	×	Up to 128GB
Graphics	Adreno 430	Adreno 530	Mali-T760MP8	M9	Adreno 420
Screen size	5.7in	5.5in	5.7in	5.5in	5.7in
Screen resolution	2560x1440	1920x1080	1280x720	1920x1080	2560x1440
Pixel density	518ppi	401ppi	518ppi	401ppi	515ppi
Screen technology	Quad HD capacitive	AMOLED	Super AMOLED	IPS	Super AMOLED
Front camera	8Mp	8Mp	5Mp	5Mp	3.7Mp
Rear camera	12.3Mp, LED flash	16Mp, LED flash	16Mp, LED flash	12Mp, LED flash	16Mp, LED flash
Video recording	4K	Auto HDR	4K	4K	4K
Cellular connectivity	4G	4G	4G	4G	4G
SIM type	Nano-SIM	Nano-SIM	Nano-SIM	Nano-SIM	Micro-SIM
Dual-SIM as standard	×	×	×	×	×
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band
Bluetooth	Bluetooth 4.2	Bluetooth 4.2	Bluetooth 4.2	Bluetooth 4.2	Bluetooth 4.1
GPS	A-GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	GPS, Glonass
NFC	✓	✓	✓	✓	✓
USB OTG	✓	✓	✓	✓	✓
Extra features	Fingerprint scanner	Fingerprint scanner	Heart-rate sensor, fingerprint scanner	Fingerprint scanner	Fingerprint, UV, heart-rate sensors, S Pen stylus
Geekbench 3.0 (single)	Not tested	Not tested	1497	2527	Not tested
Geekbench 3.0 (multi)	3939	5546	Not tested	4407	3272
SunSpider	636ms	Not tested	718ms	210ms	1367ms
GFXBench: T-Rex	34fps	59fps	37fps	59fps	27fps
GFXBench: Manhattan	14fps	46fps	15fps	38fps	11fps
Battery	3450mAh, non-removable	3000mAh, non-removable	2300mAh, non-removable	Lithium-ion	3220mAh, removable
Dimensions	159.3x77.8x7.3mm	152.7x74.7x7.4mm	153.2x76.1x7.6mm	158.2x77.9x7.3mm	78.6x153.5x8.5mm
Weight	178g	158g	171g	192g	176g
Warranty	1 year	1 year	1 year	1 year	2 years
FULL REVIEW	TINYURL.COM/NABSV4E	TINYURL.COM/Z3HQ6BZ	TINYURL.COM/OCQAJPL	TINYURL.COM/OYRA5MX	TINYURL.COM/PNHJCZ4

Best 7- & 8in tablets





	1 Samsung Galaxy Tab S2 8	2 Apple iPad mini 4	3 Samsung Galaxy Tab S 8.4	4 Sony Xperia Z3 Tablet Compact	5 Apple iPad mini 2
Price	**£319 inc VAT**	**£319 inc VAT**	**£319 inc VAT**	**£299 inc VAT**	**£219 inc VAT**
Website	Samsung.com/uk	Apple.com/uk	Samsung.com/uk	Sony.co.uk	Apple.com/uk
Build rating	★★★★½	★★★★½	★★★★☆	★★★★☆	★★★★½
Features rating	★★★★☆	★★★★☆	★★★★½	★★★★½	★★★★☆
Performance rating	★★★★½	★★★★☆	★★★★½	★★★★½	★★★★½
Value rating	★★★★☆	★★★½☆	★★★★½	★★★★☆	★★★★☆
Overall rating	★★★★☆	★★★★☆	★★★★½	★★★★½	★★★★½
OS (out of box)	Android 5.0 Lollipop	iOS 9	Android 4.4 KitKat	Android 4.4 KitKat	iOS 9
Processor	1.9GHz Exynos 5433	Apple A8, Apple M8	Exynos 5420, octa-core	2.5GHz Snapdragon 801	Apple A7, Apple M7
RAM	3GB	2GB	3GB	3GB	1GB
Storage	32GB/64GB	16GB/64/128GB	16GB/32GB	16GB/32GB	16GB/32GB
MicroSD support	Up to 128GB	×	Up to 128GB	Up to 128GB	×
Graphics	Not specified	Apple A8	ARM Mali-T628 MP6	Adreno 330	Apple A7
Screen size	8in	7.9in	8.4in	8in	7.9in
Screen resolution	2048x1536	2048x1536	2560x1440	1920x1200	2048x1536
Pixel density	320ppi	326ppi	359ppi	283ppi	326ppi
Screen technology	Super AMOLED	IPS	Super AMOLED	IPS	IPS
Front camera	2.1Mp	1.2Mp	2.1Mp	2.2Mp	1.2Mp
Rear camera	8Mp	8Mp	8Mp, LED flash	8.1Mp	5Mp
Video recording	QHD	1080p	1080p	1080p	720Op
Cellular connectivity	4G version available	4G version available	4G version available	4G version available	4G version available
Wi-Fi	802.11a/b/g/n/ac	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n, dual-band
Bluetooth	Bluetooth 4.1	Bluetooth 4.2	Bluetooth 4.0	Bluetooth 4.0	Bluetooth 4.0
GPS	A-GPS, Glonass	A-GPS, Glonass	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass
NFC	×	×	×	✓	×
USB OTG	✓	×	✓	✓	×
Fingerprint scanner	×	✓	✓	×	×
Waterproof	×	×	×	✓	×
Extra features	None	None	Stereo speakers	PS4 Remote Play, stereo speakers	None
Geekbench 3.0 (single)	Not tested	1719	Not tested	Not tested	Not tested
Geekbench 3.0 (multi)	4305	3101	2765	2708	Not tested
SunSpider	Not tested	Not tested	1089ms	1017ms	397ms
GFXBench: T-Rex	26fps	52fps	14fps	28fps	Not tested
GFXBench: Manhattan	11fps	25fps	3fps	11fps	Not tested
Battery	4000mAh, non-removable, Qi	5124mAh, non-removable	4900mAh, non-removable	4500mAh, non-removable	6470mAh, non-removable
Dimensions	198.6x134.8x5.6mm	203.2x134.8x6.1mm	126x213x6.6mm	213x124x6.4mm	200x134.7x7.5mm
Weight	265g	304g	294g	270g	331g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/P37QFDW	TINYURL.COM/PBMONMA	TINYURL.COM/OUEM64Z	TINYURL.COM/NJ6VHEO	TINYURL.COM/PCJPB5L

Best 9- & 10in tablets	 1	 2	 3	 4	 5
	Apple iPad Air 2	**Sony Xperia Z4 Tablet**	**Microsoft Surface Pro 4**	**Apple iPad Pro (12.7in)**	**Apple iPad Air**
Price	**£399 inc VAT**	**£499 inc VAT**	**£749 inc VAT**	**£679 inc VAT**	**£319 inc VAT**
Website	Apple.com/uk	Sony.co.uk	Microsoft.com/en-gb	Apple.com/uk	Apple.com/uk
Build rating	★★★★★	★★★★½	★★★★½	★★★★☆	★★★★☆
Features rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★½
Performance rating	★★★★½	★★★★½	★★★★☆	★★★★½	★★★★½
Value rating	★★★★☆	★★★½☆	★★★☆☆	★★★½☆	★★★★☆
Overall rating	★★★★½	★★★★½	★★★★☆	★★★★☆	★★★★☆
OS (out of box)	iOS 9	Android 5.0 Lollipop	Windows 10 Pro	iOS 9	iOS 9
Processor	Apple A8X, Apple M8	Snapdragon 810	Intel Core m3	Apple A9X, Apple M9	Apple A7, Apple M7
RAM	2GB	3GB	4GB	4GB	1GB
Storage	16/64/128GB	32GB	128GB SSD	16GB/32GB	16GB/32GB
MicroSD support	×	Up to 128GB	×	×	×
Graphics	Apple A8X	Adreno 430	Intel HD Graphics 515	Apple M9	Apple A7
Screen size	9.7in	10.1in	12.3in	12.9in	9.7in
Screen resolution	2048x1536	2560x1600	2736x1824	2048x2732	2048x1536
Pixel density	264ppi	299ppi	None	264ppi	264ppi
Screen technology	IPS	IPS	PixelSense	IPS	IPS
Front camera	1.2Mp	5.1Mp	5Mp	1.2Mp	1.2Mp
Rear camera	8Mp	8.1Mp	8Mp	8Mp	5Mp
Video recording	1080p	1080p	Not specified	1080p	1080p
Cellular connectivity	4G version available	4G version available	×	4G version available	4G version available
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n, dual-band
Bluetooth	Bluetooth 4.0	Bluetooth 4.1	Bluetooth 4.1	Bluetooth 4.0	Bluetooth 4.0
GPS	A-GPS, Glonass	A-GPS, Glonass	×	A-GPS, Glonass	A-GPS, Glonass
NFC	✓ (for Apple Pay)	✓	×	✓ (for Apple Pay)	×
USB OTG	×	✓	✓	×	×
Fingerprint scanner	✓	×	×	✓	×
Waterproof	×	×	×	×	×
Extra features	None	None	None	None	None
Geekbench 3.0 (single)	1816	Not tested	Not tested	Not tested	1487
Geekbench 3.0 (multi)	4523	4573	6721	5498	2703
SunSpider	Not tested	580ms	Not tested	Not tested	400ms
GFXBench: T-Rex	48fps	37fps	47fps	59fps	23fps
GFXBench: Manhattan	Not tested	16fps	22fps	34fps	Not tested
Battery	7340mAh, non-removable	6000mAh, non-removable	Not specified	10,307mAh, non-removable	8600mAh, non-removable
Dimensions	240x169.5x6.1mm	254x167x6.1mm	292x201x8.45mm	305.7x220.6x6.9mm	240x169x7.5mm
Weight	437g	393g	766g	713g	469g
Warranty	1 year	1 year	1-year return-to-base	1 year	1 year
FULL REVIEW	TINYURL.COM/PLQXWSZ	TINYURL.COM/JG34GZP	TINYURL.COM/HE9UYXU	TINYURL.COM/HFFVJR9	TINYURL.COM/NVOOF6H

Best smartwatches





	1 Huawei Watch	2 Motorola Moto 360 2	3 Samsung Gear S2	4 LG G Watch R	5 Fossil Q Founder
Price	**£289 inc VAT**	**£229 inc VAT**	**£199 inc VAT**	**£195 inc VAT**	**£259 inc VAT**
Website	Consumer.huawei.com/en	Motorola.co.uk	Samsung.com/uk	Lg.com/uk	Fossil.com/uk
Overall rating	★★★★☆	★★★★☆	★★★★☆	★★★★½	★★★★☆
Operating system	Android Wear	Android Wear	Tizen-based OS	Android Wear	Android Wear
Compatibility	Android	Android, iOS	Android, iOS	Android	Android, iOS
Display	1.4in 400x400 AMOLED	1.37in 360x325 LCD	1.2in 360x360 AMOLED	1.3in 320x320 P-OLED	1.5in, 360x326 LCD
Processor	Snapdragon 400	Snapdragon 400	1GHz Exynos 3250	1.2GHz Snapdrgon 400	Intel Atom Z34XX
RAM	512MB	512MB	512MB	512MB	1GB
Storage	4GB	4GB	4GB	4GB	4GB
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery	300mAh	300mAh	250mAh	410mAh	400mAh
Dimensions	42x11.3mm	42x11.4mm	42.3x49.8x11.4mm	46.4x53.6x9.7mm	47x13mm
Weight	40g	53.6g	47g	62g	156g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/PXV9PVX	TINYURL.COM/GUJR9XX	TINYURL.COM/P4UKB74	TINYURL.COM/QATY8FT	TINYURL.COM/Z3X6D6F

Best smartwatches





	6 Asus ZenWatch 2	7 Motorola Moto 360	8 LG Watch Urbane	9 Sony Smartwatch 3	10 Microsoft Band 2
Price	**£149 inc VAT**	**£199 inc VAT**	**£259 inc VAT**	**£189 inc VAT**	**£199 inc VAT**
Website	Uk.sasus.com	Motorola.co.uk	Lg.com/uk	Sony.co.uk	Microsoft.com/en-gb
Overall rating	★★★★☆	★★★★½	★★★★☆	★★★½☆	★★★★½
Operating system	Android Wear	Android Wear	Android Wear	Android Wear	Windows 10 based
Compatibility	Android, iOS	Android	Android	Android	iOS, Android, Windows
Display	1.63in 320x320 LCD	1.56in 290x320 LCD	1.3in 320x320 P-OLED	1.6in 320x320 LCD	32x12.8mm 320x128 AMOLED
Processor	1.2GHz Snapdragon 400	TI OMAP 3	1.2GHz Snapdragon 400	1.2GHz ARM V7	Not specified
RAM	512MB	512MB	512MB	512MB	Not specified
Storage	4GB	4GB	4GB	4GB	Not specified
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery	300mAh	320mAh	410mAh	420mAh	Not specified
Dimensions	40.7x49.6x10.9mm	46x11.5mm	46x52x10.9mm	36x51x10mm	Small, medium, large sizes
Weight	50g	49g (leather band model)	67g	45g	59g (medium)
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/ZVRZLNJ	TINYURL.COM/O9C69K6	TINYURL.COM/Q3VK7ES	TINYURL.COM/OQVZ3PN	TINYURL.COM/HHP4LMR

Best activity trackers	1 	2 	3 	4 	5 
	Fitbit Charge HR	**Fitbit Alta**	**Fitbit Surge**	**MyZone MZ-3**	**Microsoft Band 2**
Price	**£119 inc VAT**	**£99 inc VAT**	**£199 inc VAT**	**£129 inc VAT**	**£199 inc VAT**
Website	Fitbit.com/uk	Fitbit.com/uk	Fitbit.com/uk	Myzone.org	Microsoft.com/en-gb
Overall rating	★★★★½	★★★★☆	★★★★½	★★★½☆	★★★½☆
Compatibility	iOS, Android, Windows	iOS, Android, Windows	iOS, Android, Windows	iOS, Android, Windows	iOS, Android, Windows
Display	OLED	OLED	Touchscreen	No	AMOLED
Pedometer	Yes	Yes	Yes	No	Yes
Heart-rate monitor	Yes	No	Yes	Yes	Yes
Sleep tracking	Yes	Yes	Yes	No	Yes
Alarm	Yes	Yes	Yes	No	Yes
Third-party app synching	Yes	Yes	Yes	No	Yes
Call notifications	Yes	Yes	Yes	No	Yes
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery life	5+ days	5 days	5 days	7 months	2 days
Weight	26g	32g	51g	Not stated	159g
FULL REVIEW	TINYURL.COM/PCKV4SU	TINYURL.COM/ZO8TN2L	TINYURL.COM/O83DR47	TINYURL.COM/HK5JOXX	TINYURL.COM/HHP4LMR

Best activity trackers	6 	7 	8 	9 	10 
	Fitbit One	**Moov Now**	**Misfit Shine 2**	**Withings Go**	**Fitbit Blaze**
Price	**£79 inc VAT**	**£59 inc VAT**	**£79 inc VAT**	**£49 inc VAT**	**£159 inc VAT**
Website	Fitbit.com/uk	Welcome.moov.cc	Misfit.com	Withings.com	Fitbit.com/uk
Overall rating	★★★★½	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Compatibility	iOS, Android	iOS, Android	iOS, Android	iOS, Android	iOS, Android, Windows
Display	OLED	No	12 colour LEDs	E-Ink	Colour LCD
Pedometer	Yes	Yes	Yes	Yes	Yes
Heart-rate monitor	No	No	No	No	Yes
Sleep tracking	Yes	Yes	Yes	Yes	Yes
Alarm	Yes	No	No Yes	No	Yes
Third-party app synching	Yes	No	Yes	Yes	Yes
Call notifications	No	No	Yes	No	Yes
Waterproof	No	Yes	Yes	Yes	Yes
Battery life	10-14 days	6 months	6 months	8 months	5 days
Weight	8g	6g	8.5g	9g	43g
FULL REVIEW	TINYURL.COM/PT2TC6F	TINYURL.COM/GSYKBCT	TINYURL.COM/HE5HJJ2	TINYURL.COM/ZH5KJD7	TINYURL.COM/ZZOXCE7

Best power banks





	1 Zendure A2 (2nd gen)	2 Xiaomi 10,000mAh	3 RavPower Turbo+ 20100mAh	4 Anker PowerCore+ 20100	5 Maximas XTRON USB-C
Price	**£25 inc VAT**	**£11 inc VAT**	**£34**	**£32**	**$69 (£45)**
Website	Zendure.com	Mi.com/en	Ravpower.com	Anker.com	Indiegogo.com
Overall rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★½
Capacity	6700mAh	10,000mAh	20,100mAh	20,100mAh	13,400mAh
Input	1x 7.5W Micro-USB	1x 10W Micro-USB	1x 15W USB-C, 1x QC 3.0 Micro-USB	1x 15W USB-C	1x USB, 1x USB-C
Outputs	1x 10.5W USB	1x 10.5W USB	1x 15W USB-C, 1x QC 3.0, 1x 12W USB	2x 12W USB	1x 21W USB
Auto-on/-off	Yes	Yes	Yes/No	Yes	No
Passthrough charging	Yes	Yes	No	No	No
Status indicator	4 LEDs	4 LEDs	Yes	10 LEDs	4 LEDs
LED flashlight	No	No	No	No	No
Carry case	Yes	No	Yes	Yes	No
Dimensions	93x48x23mm	91x60.4x22mm	172x80x20mm	184x62x24mm	77x21x93mm
Weight	137g	207g	375g	155g	247g
Warranty	1 year	1 year	1 year	18 months	Not specified
FULL REVIEW	TINYURL.COM/NGCNO5F	TINYURL.COM/NFQZOCB	TINYURL.COM/ZEZURYP	TINYURL.COM/ZEZURYP	TINYURL.COM/PVO2LEC

Best desktop chargers





		1 Tronsmart Titan	2 Tronsmart U5PTA	3 CHOEtech 6-port Charger	4 Aukey USB Charging Station	5 iClever USB Travel Charger
Price		**£25 inc VAT**	**£22 inc VAT**	**£25 inc VAT**	**£17 inc VAT**	**£20 inc VAT**
Website		Tronsmart.com	Tronsmart.com	Choetech.com	Hisgadget.com	Hisgadget.com
Overall rating		★★★★½	★★★★½	★★★★½	★★★★☆	★★★★☆
Max output		90W	54W	60W	54W	50W
Outputs:	USB 1	QC 2.0	QC 3.0	QC 2.0	QC 2.0	12W USB
	USB 2	QC 2.0	12W	QC 2.0	12W	12W USB
	USB 3	QC 2.0	12W	12W	12W	12W USB
	USB 4	QC 2.0	12W	12W	12W	12W USB
	USB 5	QC 2.0	12W	12W	12W	12W USB
	USB 6	N/A	N/A	12W	N/A	12W USB
Colours available		Black	Black	Black	Black	Black
Dimensions		160x81x28mm	165x156x56mm	71.5x29x88.4mm	94x60x25mm	100x69x27mm
Weight		292g	390g	158g	149g	180g
Warranty		1 year	18 months	1 year	1 year	1 year
FULL REVIEW		TINYURL.COM/GMVDCHM	TINYURL.COM/QG4X5D9	TINYURL.COM/QG4X5D9	TINYURL.COM/P2CZMCU	TINYURL.COM/MPA4DWC