LATEST SMARTPHONES, TABLETS & WEARABLES

ANDROID ADVISOR

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FROM IDG

Galaxy S7

VS

Galaxy S8

IS THE FUTURE OF PHONES FOLDABLE?

Our full guide on what to expect at MWC

IT'S A TRAP:

WhatsApp scams to avoid

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Welcome...

MWC is just weeks away, kicking off on 27 February. This would usually entail the launches of several high-end phones, including the latest Samsung, LG, HTC and Sony flagships. Not so in 2017. Why? Because of Samsung.

It all boils down to the fact that Samsung has helped Qualcomm to manufacture its latest Snapdragon 835 chip, which is the one all the 2017 flagships are queueing up to get hold of. But Samsung has the exclusive on this mobile processor, and no other manufacturer can announce a phone that includes the chip before it. So when is Samsung launching its Galaxy S8? March. Of course it is.

Too late for MWC, and therefore too late for many of its competitors to unveil Snapdragon 835 flagships at the show, no-one is really sure whether this was Samsung's game plan all along or if it just wants to make double-sure its Galaxy S8 isn't going to explode thanks to a faulty battery.

Don't panic, though, as there's still lots to get excited about for MWC. LG is said to be not playing Samsung's game, and will launch a Snapdragon 821-toting G6 alongside two new smartwatches – the first to run Android Wear 2.0. We could also see an updated Huawei Watch with the new OS. And then there's the Moto G (or rather the ninth and tenth Moto G), the UK's favourite budget phone.

Feature: What to expect at MWC 2017

Chris Martin reveals what we are expecting at this year's event

MWC 2017 is approaching and the mobile-focused show in Barcelona could have a lot of great new products in store. Here we preview the show, which starts on 27 February and show you what to expect at MWC 2017 from Samsung, Sony, LG, HTC, Huawei and more.

Samsung

Right off the bat, we know that Samsung will not be announcing the Galaxy S8 at MWC this year. An executive has confirmed that the company won't follow its usual tradition of revealing the new flagship in Barcelona. It's unclear when it will arrive but most are tipping April.

So what will Samsung launch at MWC 2017? Well you can bet that it will have a range of products on show with possible devices including the Galaxy Tab S3 and Galaxy TabPro S2 – both tablets but new wearables are always a

possibility despite the recent Gear S3. The Tab S3 is looking like a dead cert with a couple of recent leaks and the image used for Samsung's press conference invite (above).

In terms of phones, Samsung already introduced the new Galaxy A range for 2017 at CES and while there are some rumours the Galaxy Note 8 could make an appearance and MWC, we think it's a long shot.

LG

It's pretty much a given that the star of LG's show will be the new G6 flagship smartphone which has been leaked recently. If the information is correct, it seems LG is ditching the modular design of the LG G5 and opting for a sleek design with tiny bezels (see page 6). Interestingly the phone will also have, we think, a 5.7in display with an unusual 18:9 (2:1) aspect ratio. The firm is also thought to be launching new Android Wear

smartwatches in partnership with Google, so we're keen to see them in Barcelona.

Sony

We're still a bit confused by Sony's X portfolio of smartphones, having ditched the nice lettering system of Z down to E.

As much as we hope the firm simplifies things up, it's rumoured to be launching follow-ups to the devices we saw last year – the Xperia X and Xperia XA. Whether the number 2 will be tagged on the end or new names created remains to be seen, but you can expect features like waterproofing and decent cameras.

In fact, going by one leak Sony will announce five devices at the show. The list, via sumahoinfo, suggests two of them will feature 5.5in screens and Snapdragon 835 processors – one will have a 4K screen and 6GB of RAM.

HTC

When it comes to HTC, we're less sure on what the company will do at MWC. It's just announced the HTC U Ultra and U Play while confirming they are not new flagships. That suggests we'll see the HTC 11 then, if that's what it's even called, but the HTC 10 didn't arrive last year so it's by no means a given.

Huawei

Now getting more traction in the UK and Europe, many eyes will be on Huawei and its 2017 flagship phone. It has a press conference lined up for 26 February and we expect it to be launching the Huawei P10 which will have to take on the likes of the LG G6 and Galaxy S8.

The firm could also announce other products and we wouldn't be too surprised to see a new tablet or two and hopefully a Huawei Watch 2 with Android Wear 2.0. A leak by Evan Blass says it 'may launch February' and will have optional LTE connectivity.

Nokia, Motorola and Xiaomi

You can expect plenty more phones at MWC this year and both Motorola (Lenovo) and Nokia have sent out invites so that's a decent bet. The former is tipped to launch the Moto G5 and Nokia might release a P1 phone with a Snapdragon 835 and a tablet.

If you're wondering if we might see new phones, or other devices from Xiaomi like the Mi 6 it looks like that won't be the case. According to TechCrunch, the firm has no plans of the sort and will be 'skipping the event entirely'.

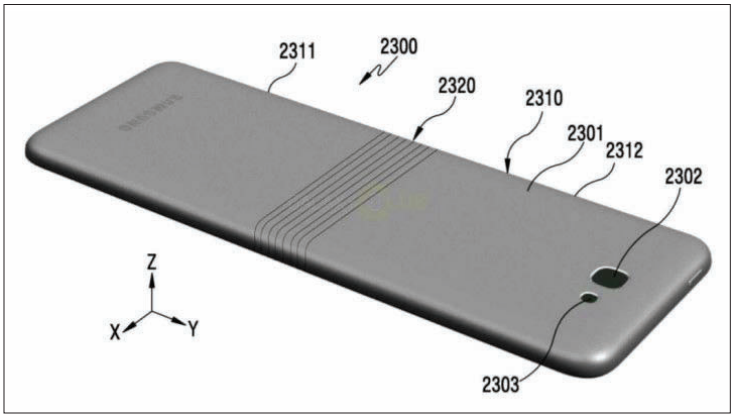
Feature: Could foldable phones become a reality?

Samsung has been working on foldable phones for years. Marie Brewis reveals what we know about the Galaxy X

What is a foldable phone?

A foldable phone is exactly as it sounds, one that either folds inward (like a clamshell phone) or outward and reveals a tablet-like device when stretched out. This is possible with the use of a bendable (rather than flexible, as seen in the Galaxy S7 edge) OLED panel.

Samsung, Lenovo and LG have each showed off bendable displays and devices at various industry events, and have registered many patents for the technology. Previously called Project Valley, Samsung's technology has become known as the Galaxy X, which may or may not be its eventual name upon release.



Samsung originally worked on fold-in phones, which close up like a wallet, but having completed its work there it has moved on to fold-out phones. These should be more convenient for the user, who wouldn't need to unfold the phone every time they wanted to use it.

The Galaxy X was originally rumoured to be a 5in phone that could fold out into an 8in tablet, but it's now suspected to fold out into a 7in tablet. It's indeed possible that there will actually be two Samsung foldable phones released.

According to rumours the screen resolution is expected to be 4K (3840x2160 pixels), ensuring that it remains high-res when folded. The Galaxy X could also feature a dual-camera at the rear, and one of the latest Qualcomm Snapdragon processors – most likely now the Snapdragon 835. There should be a microSD card slot, but the battery will not be removable.

A patent application (opposite) filed by Samsung in late 2016 shows some renders of what the eventual Galaxy X may look like (via Sammobile).

Release date

Although Samsung's foldable technology is said to be ready, a source close to the matter told the Korea Herald that the device has not been unveiled because of marketability and profitability issues. Plans have also been held up by the political scandal involving president Park Geun-hye and her confidante Choi Soon-sil.

However, Samsung hopes that its foldable phone will be unveiled in the third quarter of 2017, and the company will ship more than 100,000 units.

Feature: What is Bluetooth 5?

Bluetooth 5 has finally arrived. **Martyn Casserly** explains what it is and why you'll want to upgrade

The specs for Bluetooth 5 have now been finalised, meaning we should soon see devices released which include the technology. So what changes does the new standard bring and how will they benefit you? We take a closer look.

Bluetooth

Bluetooth is a wireless method of communication between electronics devices. It's cross platform,

meaning it works on pretty much any technology device. The most common uses for it tend to be connecting wireless speakers or headphones to smartphones and tablets, but you can also transfer files to PCs, have your smartphone communicate with a smartwatch, connect a wireless keyboard or a wide variety of other useful things.

New features

Connects over longer distances

At the moment Bluetooth 4.2 is good for around 10m (or 33ft) with a clear line of sight. Bluetooth 5 is set to quadruple this.

Faster performance

Another improvement over its predecessor is that Bluetooth 5 will have a data transfer rate of 2Mb/s, twice as fast in terms of performance, plus it will carry eight times the amount of information. This means you'll be able to send more data, quicker than you could have done before. Sadly, before audiophiles get their hopes up though, this still isn't enough for uncompressed music streaming.

More robust signal

Bluetooth 5 also contains technology that will allow it to reduce the potential interference caused by other Bluetooth or Wireless devices in any given area. This will become increasingly important as the age of the Internet of Things finally arrives.

Built for the Internet of Things

The extended range, higher bandwidth, and stronger performance mean that Bluetooth

Beacons, local nodes that can send very precise area-specific information to devices, are set to become far more widespread. Initially these will most likely be found in places like shopping centres, letting you know where certain stores are and any deals or promotions they currently have. But the uses are wider than that and we've already seen one that helps blind people navigate around San Francisco airport.

More power efficiency

With all these extra features it's only reasonable to assume that power drain could become an issue on our already battery-challenged smartphones. Thankfully this shouldn't be the case as it seems the new specification will match the performance of Bluetooth 4.2.

Compatible devices

As much of Bluetooth technology involves hardware, it will mean replacing your devices with newer versions if you want the benefits Bluetooth 5 provides. You'll still be able to use your existing devices to connect to hardware using the new standard, but performance will remain the same as it was on Bluetooth 4.2.

Release date

In terms of release dates, Bluetooth 5 was confirmed by the overseeing body the Bluetooth Special Interest Group, which means it is now available for manufacturers. We would expect to see devices appear in the shops over the next few months, so you won't have long to wait.

Preview: Samsung Galaxy S7 vs Galaxy S8

Galaxy S7, £569 inc VAT; Galaxy S8 £TBC • samsung.com/uk

The big news of the moment is that the Galaxy S8 won't launch at MWC 2017. But everyone is sort of overlooking the important part of this story: the S8 is still coming, and it is still expected to go on sale in April. If anything it's bad news only for Samsung's rivals, who aren't allowed to use the new Snapdragon 835 processor until the Galaxy S8 has launched.

So, is it worth you waiting for the Galaxy S8, or should those who need a new phone now grab themselves a cheaper option in the S7? We should reiterate the fact that the S8 information is based on rumours, but as in previous years we expect a lot of what has leaked to come true.

Galaxy S7

Price

Today you can buy a SIM-free Galaxy S7 for under £450, and this price is likely to drop further when the Galaxy S8 is announced. Meanwhile, contract prices start below £40 per month.

Should you opt for the Galaxy S8 when it comes out you can expect contract prices to start above £50 (with no upfront charge for the phone), while SIM-free it is

rumoured to cost £679 and the Plus version £749. Either way you look at it the Galaxy S7 will be the significantly cheaper option.

Models

The Galaxy S7 came in two versions: one with a standard 5.1in Quad-HD SuperAMOLED display, and an 'edge' version with a 5.5in Quad-HD AMOLED dual-curved-edge display.

For the Galaxy S8 the dual-curved-edge display is expected to become standard across the range, so it no longer makes sense to have an 'edge' model. Instead, the larger of the two is thought to be called the Samsung Galaxy S8 Plus.

The Galaxy S8 Plus should be a larger version of the Galaxy S8 with a higher-capacity battery and potentially a dual-camera.

Design

The Galaxy flagship is expected to get a lot more screen estate in 2017, yet without a drastic change in the dimensions. As we've noted above the dual-curved screen is thought to be standard across the range, but Samsung has other changes in mind.

Edgeless displays are the new trend for 2017 and we expect to see Samsung fit a larger display (5.8in up from 5.1in on the standard S8 and 6.2in up from 5.5in on the S8 Plus), but keep down the dimensions with the removal of the Home button at the front and slimmed-down top- and bottom bezels.

The Galaxy S8 is expected to measure 140.14x72.2x7.3mm, a small increase in width over the 142x70x7.9mm Galaxy S7, but both slimmer

and shorter. And we should see only a slight increase in size for the Galaxy S8 Plus over the Galaxy S7 edge, with the new model some 152.38x78.51x7.94mm and the S7 edge 151x73x7.8mm.

The loss of the Home button will make the Galaxy S8 look quite different to previous Samsung flagships, though we expect the company to continue with the metal and glass front/rear design introduced in the Galaxy S6 and refined in the Galaxy S7. The scanner itself is likely to go on the rear of the device, while the Note 7's iris scanner may now feature at the front.

Galaxy S7

The display itself could get a further upgrade as Samsung poises its handsets at the mobile VR market. It was one of the first to fit a Quad-HD screen, but due to the fact VR headsets half the resolution for each eye there is an outside chance it will increase the resolution to Ultra-HD (4K). We're not entirely convinced on this, however, and think that in common with its predecessor the Galaxy S8 will feature a Quad-HD display.

Stylus

The Galaxy S7 didn't feature a stylus, but the Galaxy S8 is rumoured to come with the S Pen previously unique to the Note family. This will fill a gap in Samsung's product range following the discontinuation of the Note 7, though it will bring the two devices even closer together with little to differentiate between them.

Various case renders appear to show what could be a slot for an S Pen stylus, though these

are far from confirmation of what seems like a very odd move for the company.

Processor

We can be fairly certain that Samsung will replace the Snapdragon 820 inside the Galaxy S7 with a Snapdragon 835, which it has built in co-operation with Qualcomm. This 10nm chip integrates the Adreno 540 GPU, and promises improvements in performance (up to 27 percent higher), efficiency (up to 40 percent higher), and therefore battery life. It also supports Quick Charge 4.0, which is being marketed as able to give you five hours life from a five-minute charge.

Samsung usually ships a version of the Galaxy flagship with one of its own Exynos processors inside in certain regions, too. That processor may be the Exynos 8895 with the ARM Mali-G71 GPU.

Regardless of the processor choice, you can rest assured that the move to mobile VR means Samsung will fit its Galaxy S8 with much more powerful hardware than it did the Galaxy S7.

RAM

Both versions of the Galaxy S7 came with 4GB DDR4 RAM, but the new Snapdragon 835 chip can accept up to 8GB. A more likely upgrade is to 6GB, and that's exactly what has been rumoured.

Cameras

A 12Mp camera was fitted to the rear of both the Galaxy S7 and S7 edge, but for the Galaxy S8 there's talk of a dual-camera. It's possible that this will be included only on the Samsung Galaxy

S8 Plus, as is the case with Apple's latest iPhone line-up. The standard Galaxy S8 is likely to continue using a 12Mp primary camera, but with some improvements including support for iris scanning and visual search through Bixby. The selfie camera is also expected to get an upgrade, and now come with an autofocus.

Audio

Samsung has recently acquired audio firm Harman, which is well known for its Harman Kardon speakers. The Galaxy S8 is expected to substitute the bottom-facing speaker on the Galaxy S7 with stereo speakers at top and bottom of the handset.

There was a lot of talk about Samsung 'doing an Apple' and dropping the 3.5mm headphone jack in favour of new USB-C audio (itself replacing the Micro-USB slot). More recently it has been rumoured that the Galaxy S7 will feature neither ports, and audio will be completely wireless.

A number of case renders have popped up online supporting both theories. We're not entirely sure which direction Samsung will take with the Galaxy S8, but we'd be surprised if it went out of its way to upset fans further following the Note 7 problems. Making an educated guess, we'd suggest there will be a 3.5mm headphone jack and USB-C.

Battery

Should the Samsung Galaxy S8 come without a USB-C or even Micro-USB port then all charging will

be wireless, which is unfortunate – and therefore probably not likely – given the Snapdragon chip's support for Quick Charge 4.0. The Galaxy S7 already supports fast wireless charging, so while it will annoy many users it's certainly feasible.

Software

One of the most talked about new features in the Galaxy S8 is Bixby, a virtual assistant to rival the Google Assistant that is based on recently acquired Viv's AI technology. Bixby (the male voice, and potentially Kestra for the female voice) is said to be able to conduct mobile payments, control apps and even perform image search and OCR using the camera. The S8 will ship with Android Nougat, whereas the S7 came with Marshmallow. But this isn't a reason to choose the S8 over the S7, as that update should be rolling out for the S7 now. Expect the latest version of TouchWiz to be overlaid.

Verdict

Samsung has lost an awful lot of money over the Note 7, and more importantly it has lost consumer trust. It has no option but to come back fighting with the S8, and for that reason alone it's likely to be an incredible upgrade. There may be some frustrations if it does as is rumoured and removes both the headphone jack and USB port, but once you get used to the changes the Galaxy S8 will offer improvements across the board. The only reason to choose the Galaxy S7 will be if you demand the headphone jack or can't stretch to monthly payments of upwards of £50 or the higher SIM-free price. **Marie Brewis**

LG G5

Preview: LG G6

lg.com/uk

Once upon a time HTC showed Samsung stiff competition in the Android market, but these days it has LG to fear. The G5 was a fantastic phone, and the G6 should be even better – potentially with waterproofing and wireless charging. So, should you wait for the LG G6 or buy the LG G5 now? We round up the LG G6 rumours, including details on the LG G6 UK release date, price and specifications. 7

Droid-Life has shared images (page 20) of what it believes to be a prototype LG G6. It's far from a finished product, but it is possible to make out dual rear cameras, a metal frame, a slim screen bezel, a rear fingerprint scanner and a USB-C port.

Credit: Droid-Life

Release date

A save the date email has now gone out from LG for 26 February at 12 noon. This will be the LG G6 launch, so mark your calendars now.

As for when the phone actually goes on sale, the word on the street in Korea is 10 March 2017, which puts its on-sale date more than a month ahead of the Galaxy S8's expected 18 April on-sale date. The G6 is expected to launch initially in South Korea, Europe and the North America.

Price

LG has always managed to undercut its rivals on pricing, and its ability to make high-end handsets

at great-value price points has always been a key reason to choose LG. The LG G5 had a £529 SIM-free RRP in the UK, so we expect LG to keep the price roughly similar for the G6. Given the current economic climate we would certainly be surprised to see it cost any less than the G5.

Specifications

With the G5 LG tried the whole modular thing with its 'Friends' accessories that were bought separately. Now, according to ETNews, it will be going it alone, leaving behind its Friends and its modular design for the all-new LG G6. It says this is because the LG G6 is expected to get a new waterproof design. However, it also says the G6 will retain its removable battery, which doesn't tally with other whispers we've heard.

More recently, CNET has reported how a 'person familiar with the company's plans' has said it is indeed ditching its removable battery in favour of a waterproof design. The site also reports that LG will use the Snapdragon 821 chip in order to prevent the phone launch being delayed, and that it will be the first non-Google phone to feature the Google Assistant.

LG itself has confirmed that it is ditching its unpopular modular design to the *Wall Street Journal*. A company spokesman said that the company was scaling back the modularity for the G6, and would focus on "aesthetics and usability".

The Verge has leaked a photo of the LG G6 (page 6), which reveals very slim bezels and a large 5.7in screen. It says the display will have an unusual aspect ratio of 2:1.

The LG's screen is expected to increase from 5.3in QHD on the G5 to 5.7in QHD+ on the G6, but without a huge increase in size thanks to slimmer bezels and a higher screen-to-body ratio. Moreover, the new screen is said to feature a new 18:9 aspect ratio with a 2880x1440-pixel resolution, according to reports. The usual standard for widescreen is 16:9, and though we have seen 17:9 in the Mi Mix those extra pixels are primarily used to house the navigation bar at the bottom. Perhaps LG might use this space to house a second screen, as it has done previously with the V10 and V20.

Some things are likely to stay the same, such as the dual-camera, 32GB of storage as standard and USB-C. But the G6 is thought to feature a more traditional design, possibly with a glass rear and this time with wireless charging built in (there were fears the tech wouldn't be ready in time for the G6 but in October LG announced a 15W Quick Wireless Charging Pad). It should also get an update to Android Nougat.

With the Galaxy S8 and S8 Plus set to be key rivals to the LG G6, it makes sense that LG will look to ensure it can keep up with those phones in terms of spec. The Galaxy S8 is expected to be extraordinarily powerful for a phone, with a strong focus on graphics that are able to power the best mobile VR experience, potentially with an upgrade to 6- or even 8GB of RAM. The S8 is also expected to get the dual curved-edge screen as standard, complete with a built-in fingerprint scanner.

According to ChosunBiz LG is having difficulty sourcing curved displays from LG Display, which is busy producing OLED displays for the Apple Watch

and LG's own smartwatches, so LG is unlikely to go for a dual-edge screen in the G6. But powerful graphics, a focus on VR, a larger complement of RAM and a fingerprint scanner built into the screen will likely be high up on its list.

We've also heard that the LG G5 will feature an iris scanner, which will use the same sensor as the front camera rather than a separate module. This will be made possible by applying a filter, and will bring down both the build costs and the amount of space required. However, LG has told GSM Arena that while such a camera has been developed, it has not been confirmed that it will be used in a smartphone.

According to LG's Lee Seok-jong, the G6 will be the company's first phone to use heatpipes to prevent the battery overheating. Such a system has previously been used in the likes of the Lumia 950 XL, Sony Xperia X2, Samsung Galaxy S7 and S7 edge... and the Note 7 (we all know how that turned out). LG will also conduct thorough battery testing, said Seok-jong.

LG G5

"We are conducting battery heat exposure tests to a temperature 15 percent higher than the temperature set by the international standards of the US and Europe. The battery also undergoes diverse tests such as piercing it with a sharp nail or dropping a heavy object on it from a high place," Seok-jong told the *Korean Herald*.

HTC 10

Preview: HTC 11

htc.com/uk

We weren't overly impressed with the HTC 10. Don't get us wrong: it was a good all-round phone with a new design, but it lacked the stand-out features of some rivals and was therefore hard to recommend. If rumours are true HTC is upping its game with its next flagship, and the HTC 11 spec will blow you away. So, when is the HTC 11 coming out?

It's now widely assumed that no flagship phones running the new Qualcomm Snapdragon 835 will launch at MWC 2017. This is because Samsung, which helped Qualcomm build the chip, apparently has first dibs and won't be launching its Galaxy S8 until April. Very sneaky. However, while a

Snapdragon 835 phone won't be announced by HTC at MWC one is coming later this year, the company promises. It's now looking likely that the HTC 11 will instead feature the Snapdragon 821.

Chialin Chang, president of smartphones and connected devices at HTC, told TBreak: "When we will look back, it will be clear why HTC introduced (the U Ultra). We want to have a couple of months of leadership before the next flagship CPU comes. But that will be in another period of time - not at MWC. Not for us or any other player. I can tell you that for sure."

What will HTC's new handset be called?

There's a bunch of stories on the web right now suggesting there won't be an HTC 11. So let's clear that up: the phone that has previously been rumoured to launch as the HTC 11 will still launch, but it simply won't be called the HTC 11. HTC is shaking up its naming system.

President of smartphone and connected devices business, Chialin Chang, has confirmed to Engadget that the HTC 11 will be announced but that it will go under a new name.

It's very likely that the HTC 11 will be renamed as the HTC U or HTC U Vive. The HTC U family unveiled on 12 January is now the company's premiere smartphone series, according to HTC. It includes an HTC U Ultra, also known as the HTC Ocean Note, while the HTC 11 expected at MWC is known as the HTC Ocean. This suggests the U Ultra is the phablet of that line-up, the U Play the mid-range model and the HTC 11 could be the flagship. It could even be known as the HTC U

Vive, following a recent video leak that showed an unknown phone with Vive branding. It can be viewed at tinyurl.com/hsrugu3.

Release date

Everyone is predicting a 12-month cycle for HTC's new phones, which puts the HTC 11 launch date in April 2017. Traditionally it has launched in March: only the HTC 10 has launched later in the year.

Sources suggest the LG G6 will go on sale on 10 March, and the Galaxy S8 in mid-April, so in order to compete the HTC 11 will need to go on sale within those two dates. The Galaxy S8 is a late launch – we'd expect the HTC 11 to arrive in March.

That's when it actually goes on sale of course, and the HTC 11 will be announced earlier – most likely during a press conference at MWC 2016, on or around 26 February 2017. We're waiting to see whether HTC announces such a conference.

HTC 10

The so-called 'HTC Ocean' has not been forgotten in light of the 12 January HTC Ocean Note launch, and @evleaks has posted a new video of a young couple purportedly using it.

Interestingly, a second video posted by @evleaks also reveals an HTC Vive-branded phone. Could this be the HTC 11?

Price

If it follows HTC's usual game, the HTC 11 will have a high price in line (or slightly below) other flagship phones. Our prediction is that it will cost between £549 and £599.

Specifications

We had assumed that the HTC 11 would use Qualcomm's best available mobile chip for its next flagship, the 10nm Snapdragon 835 with support for Qualcomm Quick Charge 4.0, except it now appears that no other company is allowed to use this chip until Samsung has announced its Galaxy S8. That won't be until April, meaning the HTC 11 will likely run the Snapdragon 821 with 4GB or 6GB of RAM.

The HTC 11 is said to also get 256GB of storage, although this will more than likely be an option (as it is with the iPhone), with the default amount set at 32GB or perhaps even 64GB if we're lucky.

For the camera, rumours are suggesting HTC will stick with a 12Mp main camera at the back, and put an 8Mp selfie camera at the front (up from 5Mp). One of the main issues with the HTC 10's camera was its lack of consistency. Some photos were great, some weren't. Also, it relied too heavily on

the presumption that people wanted to use the Pro mode and all its controls (and RAW capture), but the vast majority of users just want to press the shutter and get top-quality pictures and video.

The screen is expected to be a 5.5in 2560x1440 panel, which is larger than the 5.2in screen on the HTC 10. The battery is also expected to be larger, at 3700mAh up from 3000mAh, so it's possible we're looking at a slightly larger handset for 2017.

A new Sense Touch feature is rumoured to allow you to control the phone by swiping and tapping its metal frame. This has also been highlighted in the video further up this page.

Design

HTC needs to come up with a design that betters even the HTC 10. Plenty of manufacturers are trying

to differentiate their phones, but there's a limit to what you can do when you have to build around a 5.2in touchscreen. Hopefully HTC will do as expected and increase the screen size to 5.5in in its next flagship.

In our opinion HTC took a step backwards by putting the speakers on the top and bottom edges of its 2016 HTC 10 flagship. It also made one handle high frequencies and the other low frequencies, and this led to a strange-sounding imbalance when watching videos. We're hoping that there will be a return to front-facing BoomSound stereo speakers, although if we are to believe the render at the top of this article (which appeared on Weibo and may well be a fake) it doesn't look as though our wish will come true.

Another feature we want to see is waterproofing. The 10 isn't waterproof (not many phones are) but plenty of the latest gadgets are now IP67 or IP68 rated, and if HTC doesn't tick this box, it's just one more reason to buy from Samsung or Apple.

Better battery life is also on our HTC 11 wish list. Until we see a breakthrough in battery technology, it's probably too much to ask for two days between charging, but we would like the new phone to get through a day of hard use comfortably. News that it will get a bump up to 3700mAh (up from 3000mAh) and support Quick Charge 4.0 is fantastic – you'll charge it less often and it will take less time to do so.

However, the larger battery and larger screen rumours appear to point to a larger HTC flagship in 2017, plus an even larger version in the HTC Ocean Note.

Preview: Sony Xperia X2

sony.co.uk

Sony is a huge brand, and not just for smartphones. Purveyors of the Walkman and the best TVs in the world, it has in recent years fallen down the pecking order when it comes to the best smartphones. Its Xperia Z3 was debatably the pinnacle of its vision of flagship phones with full waterproofing and two-day battery – but that was in 2014.

Since then, Sony has confused us (and probably you) by releasing the Z3+, the Z5, and then scrapping the Z altogether with the X, XA, X Compact and then the XZ (which is still an X

series really). So – what's next? Our money is on the Sony Xperia X2 debuting at MWC 2017 in Barcelona in late February.

Release date

The Sony Xperia X was announced on 22 February 2016 at Mobile World Congress in Barcelona. It was a decidedly just-below flagship phone, with a Qualcomm Snapdragon 650 processor, when flagships are currently touting the 820 or 821.

Sony loves a six month cycle of announcements, but has recently staggered them to go midrange/flagship, and IFA in September 2016 saw them launch the Xperia XZ to replace the Z5, effectively killed the Z branding. Despite this they confusingly added a Z to the model to make XZ. The XZ became the flagship, with its 820 processor in tow.

So, we expect Sony to release a new Xperia X at MWC 2017, which may be called the X2. MWC runs from 26 February to 2 March.

Keep your eyes peeled though, as Sony could surprise us and announce a flagship device at MWC instead of or as well as an X2. It's all quite exciting for us smartphone fans really, but hard to determine what's next.

In terms of sales, you'll have to wait a bit. If Sony follows the pattern of last year's X announcement, we expect the X2 to go on sale in May 2017.

Price

In our review of the Xperia X, we were disappointed that a below flagship phone cost so much. It retailed at launch for a full £459 in the UK (though it's currently on sale for £299.99 at

Carphone Warehouse). It's odd to have a phone just below flagship for such a high price – we would expect most consumers to plump for the Xperia XZ which is £539.99, and basically the same price on contract.

Therefore we hope the Xperia X2 is more in the £300 region. This would make it much better value for money for the specs. However, we can't see Sony slicing over £150 off the price, so perhaps expect to spend at least £400 in an ideal world. The likelihood is the new Xperia X will cost at least £450 SIM free.

Design

Sony often sticks to what it knows, which suits the frequent update cycles it indulges. A leaked photo first seen by Slashleaks shows a potential box with a phone called 'new Xperia X', which is firmly looking like the Xperia X2.

The phone looks similar to the X but with thinner bezels at the top and bottom of the screen. If legitimate, this is Sony rectangle design 101.

Specifications

While nothing is confirmed, we can take an educated guess at the specs for the new Xperia X. The current Xperia X has the Qualcomm Snapdragon 650 processor. We suspect Sony might be canny here and give the Xperia X2 the Snapdragon 820, or maybe the slightly lower 810.

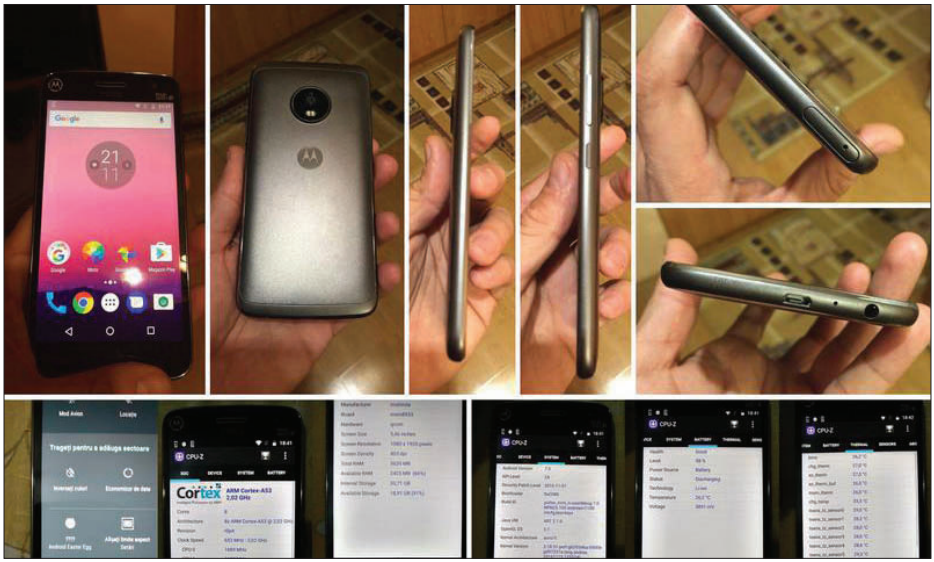
If 820, this would give it the same processor as the Xperia XZ flagship. This would be odd, but it'd mean if and when Sony releases the sequel to the XZ, it could give it the latest 835.

This would put the X2 in the strong position of not being a 'flagship' so to speak, but with still-respectable processing specs. It'll also surely retain the cool fingerprint sensor on the side of the phone from the X.

Then again it could stick with the Snapdragon 650 in order to address the pricing issues we and many more had with the original Xperia X. We'd probably prefer slightly lower specs in order for Sony to offer a well-performing phone at nearer to £300 rather than £500.

We'd also expect Sony to bump the RAM up to 4GB and add USB-C – the Xperia X had 3GB and Micro-USB, so these updates make sense for 2017.

Beyond speculation though, there's not much we can say for sure. The original Xperia X has just received Android Nougat 7.0, so we would hope Sony will release the Xperia X2 with the latest software.



Credit: OLX

Preview: Moto G5

motorola.co.uk

Ah, the Moto G. One of the UK's best-loved budget phones, and one of *Android Advisor*'s biggest headaches. Don't get us wrong, it's a great budget phone, but until 2016 when new owner Lenovo announced the Moto G4, Moto G4 Play and Moto G4 Plus, Motorola had launched a long string of very similar smartphones all called the Moto G. Trying to keep tabs on which is which is something of a minefield, especially when many of the SKUs remain available online.

In this article we'll break down the history of the Moto G, and look to its future: within the next few months we expect to see another brand-new Moto

G, the fifth-generation Moto G that will (hopefully, for our sanity) be called the Moto G5.

We were originally unsure as to whether the Moto G5 Plus would also be announced, given that the Moto G5 recently received FCC certification, but the Moto G5 Plus did not. However, the Plus version has now also been FCC-certified (source). This follows on from earlier Moto G5 Plus rumours that alleged a Moto G5 Plus prototype had been sold online, and was already listed in Brazilian store, Bemol.

History of the Moto G

In the space of just over three years we've seen a crazy eight phones all called Moto G released. And the story is more than a bit confusing.

It all began back in November 2013 when Motorola announced the first ever Moto G (XT1032), an affordable smartphone with a Snapdragon 400 processor, 1GB of RAM, 8GB or 16GB of storage, a 4.5in HD screen and a 2070mAh battery. This quickly became the company's best-selling phone, and was followed up in May 2014 with a 4G version (XT1039) with support for microSD cards.

In September 2014 came the second-generation Moto G (XT1068), with a new 5in HD screen, prominent front-facing speakers, dual-SIM functionality and improved cameras, now 8Mp and 2Mp, up from 5Mp and 1.3Mp. Sounds great, but Motorola removed the 4G functionality. This model was updated again in March 2015 with the XT1072 offering full 4G support and a slightly higher-capacity 2390mAh battery, but at the expense of the dual-SIM functionality.

For the third-generation Moto G (XT1541), announced in July 2015, Motorola bumped up the processor to the Snapdragon 410 (with integrated Adreno 306 GPU), and once again improved the cameras and battery. These were now rated at 13Mp, 5Mp and 2470mAh respectively. It also added IPX7 waterproofing...

...only for it to be taken away in May 2016 with the launch of the fourth-generation and now more aptly named Moto G4 Play, Moto G4 (standard) and Moto G4 Plus, three splashproof budget Androids. Originally just the standard and Plus models were available in the UK, which confusingly are the same size with just a fingerprint scanner (on the Plus), storage and RAM options to separate them. Whereas the standard Moto G4 comes with 2GB of RAM and either 16GB or 32GB of storage, the Plus is available in three versions: 16GB/2GB, 32GB/3GB and 64GB/4GB.

Moto G4 Play

The specification has jumped up significantly for round four, with new Snapdragon 617 processors, Adreno 405 GPUs, 5.5in full-HD screens, 16GB of storage (or more) as standard, microSD support up to 256GB, fast-charging 3000mAh batteries, and improved cameras rated at 16Mp and 5Mp.

The Moto G4 Play, meanwhile, has a spec much closer to that of the third-generation Moto G released in July 2015, with matching processor, RAM, storage and screen, but second-generation Moto G cameras (8Mp and 5Mp) and it's only splashproof rather than IPX7-rated. The battery capacity has increased, though, to 2800mAh.

Release date

With every new generation of the Moto G the release date edges a couple of months closer to MWC, the biggest mobile tradeshow of the year. In November 2013 we had the first-generation Moto G, followed by the second-gen Moto G in September 2014, the third-gen in July 2015 and the fourth-gen in May 2016. So for the fifth-generation Moto G, perhaps March 2017?

This theory ties in very nicely with MWC 2017, which takes place from 27 February 2017. There will be a special Motorola event ahead of MWC on 26 February at 4.30pm local time/3.30pm UK time, so we reckon this is when we could see the new Moto G announced. The Moto G-lookalike phone on the MWC teaser image is also something of a clue.

Of course, Motorola is under the ownership of Lenovo now, which may have a new plan. A release date hasn't been officially confirmed for the Moto G5, but we'll update this story when we know more.

Price

The Moto G family is well known for its extraordinary value, and we expect that to continue into 2017. No Moto G has ever cost more than £200, with most of the updated models averaging £150-£170, which we would suggest is a good starting place for the Moto G5.

Brazilian store, Bemol, is already listing the Moto G5 and G5 Plus, but we think it may well be simply guessing the price until it knows otherwise. It is suggesting a price of R$1,099 for the Moto G5 and R$1,499 for the Plus, which roughly converts to £280 and £380. That's twice the price of the Moto G4 and G4 Plus, and without a huge upgrade in the specification expected.

The Moto G4, Moto G4 Plus and Moto G4 Play are now a little cheaper than at launch, and all three are available from Amazon. You can buy the Moto G4 Play for £119.95, the Moto G4 for £159, and the Moto G4 Plus for £189.99. All are SIM-free, so you can insert a SIM from your mobile operator of choice.

Specifications

Prior to the Moto G4 and G4 Plus, the Moto G specification didn't jump up significantly with each new update. It's difficult to know whether Motorola will opt for its earlier incremental updates for the G5, or go for a complete refresh as it did the G4.

We've heard rumours that a Snapdragon 625 will feature, a processor announced by Qualcomm in February 2016 that offers a jump up from the Snapdragon 617 in the Moto G4 and G4 Plus. Specifically, the Snapdragon 625 promises

improvements to battery life, with 35 percent lower power usage than the 617. It also integrates the more powerful Adreno 506 GPU.

Naturally the new phone will run Android 7.0 Nougat, and it's possible we'll see Micro-USB swapped for USB-C, though we don't think Motorola will go down the route it went with the Moto Z and rely on this port for headphone audio.

Through the Moto G5's FCC certification we know that in common with the G4 and G4 Plus it will run a 3000mAh battery with TurboCharge.

We've also learned some details for the Moto G5 Plus through its FCC certification. In common with its predecessor the new phone will have a 5.5in full-HD screen, though it will have slightly more compact dimensions at 150x74mm. An accompanying image shows the rear camera location high up and central, as opposed to earlier leaked images that showed it on the right side. Like the G5, the Plus will feature a 3000mAh battery with Turbo Charging.

Some images (shown on page 34) of the Moto G5 Plus recently leaked via Romanian reselling site OLX and were captured by a Redditor before being pulled down (source). The images and accompanying information appear to confirm a 5.5in full-HD screen, 4GB of RAM and 32GB of storage, an octa-core processor based on the Cortex-A53, Micro-USB and a headphone jack.

It is said that the Moto G5 will instead feature a 5in full-HD screen, though as we know from the Moto G4 and G4 Plus both models had 5.5in full-HD screens.

Moto G4

Credit: OLX

Preview: LG Watch Sport/Style

lg.com/uk

While the Android Wear front has been relatively quiet recently, two new Google smartwatches are heading to the market any day now, flaunting the Android Wear 2.0 OS with a gorgeous design. Here's all we know about the Google Watch – aka LG Watch Sport and LG Watch Style.

Android Wear 2.0 has been tipped by @evleaks to be released on 9 February 2017. According to the leakster, the two new Google watches will be announced at the same time and go on sale the following day in the US as the LG Watch Sport and LG Watch Style.

Release date

According to @evleaks the two new Google watches will be released in Q1 2017 with Android Wear 2.0. He now says the exact date of the announcement will be 9 February 2017, with the watches going on sale in the US on 10 February 2017. LG will also show the watches at its booth at MWC in February.

Design

So, what can we expect in terms of design from the two Google smartwatches? While the two are actively being developed together, there are a few differences between them. Based on its original report, Android Police published a rendering of what the smartwatches could look like along with the claim that the image isn't an interpretation, but instead "recreations of primary source material" – whatever that means. These claims have since been backed up by Evan Blass (@evleaks) writing for VentureBeat.

Let's start with the more premium of the two Nexus smartwatches, code name Angelfish, which we now know as the LG Watch Sport. The Sport is said to be the larger of the two smartwatches, with a higher-capacity 430mAh battery and larger, higher-resolution screen at 1.38in and 480x480. The Sport also features more RAM, with 768MB onboard, while both watches have 4GB of storage, which is standard for a smartwatch.

The LG Watch Sport bears some resemblance to the Moto 360 – without the flat tyre, of course. The smartwatch apparently features visible lugs with a smooth housing that curves where the watch strap

Credit: OLX

meets the body of the device, giving it a smoother (and more premium, we imagine) look and feel when compared to the angular lugs and multi-piece design of watches like the LG Urbane LTE.

Interestingly, the LG Watch Sport is said to have not one but three buttons. Why is this interesting? Most Android Wear smartwatches feature a single button, with Casio's Android Wear smartwatch being one of the only exceptions to the rule. The Sport is said to feature a large crown button on the right hand side of the body with two circular buttons accompanying it, one above and one below. The purpose of these buttons is unclear at this time, but we speculate that users will be able to set up custom shortcuts to popular apps, and so on.

It's the thicker of the two Google smartwatches, though. Measuring in at 14.2mm thick, the LG Watch Sport smartwatch is similar to the LG Urbane LTE in terms of bulk, but we imagine this is to accommodate for its larger battery due to the

LTE connectivity featured on the smartwatch. In terms of colour options, the LG Watch Sport will be available in dark blue or titanium.

While the Sport looks to have all the bells and whistles of a modern smartwatch, the Swordfish – the LG Watch Style – looks to be a bit simpler. Described as being similar to the Pebble Time Round without the huge screen bezel in terms of design, the Style also sports a different button arrangement when compared to the Sport.

While the Sport features three buttons, the Style features only one – a crown on the right-hand side of the smartwatch. It's said to have a polished metal cap with a rigid crown-like bezel similar to that featured on the Apple Watch, which should again help convey the premium look and feel of the smartwatch.

Without the extended functionality of the Sport, the LG Watch Style can afford to be thinner than its counterpart measuring in at 10.8mm thin. It reportedly features a 240mAh battery, a 1.2in 360x360 screen, 512MB of RAM and 4GB of storage. It will be available in Silver, Titanium and Rose Gold

Specifications

So now we know a bit about the physical design of the upcoming Google smartwatches, what will they feature? While the reports of the design were fairly detailed, the same can't be said for the internals. So, what do we know so far?

Apparently the LG Watch Sport smartwatch will feature all the bells and whistles of a 2017 smartwatch including GPS, NFC, a heart rate

monitor and most impressively, LTE connectivity. The ability to connect to the Internet without the need for a phone makes the Sport potentially the first completely standalone Android Wear watch, following the announcement that standalone apps are to be supported in the forthcoming Android Wear 2.0 software update.

The LG Watch Style on the other hand is a bit more mysterious, with no confirmed spec rumours, though it should at least feature Wi-Fi and Bluetooth.

What we do know is that both the Sport and the Style will feature Google Assistant integration, Google's personal assistant that was first showcased at Google I/O last year. At the event Sundar Pichai mentioned that Nexus devices will get more exclusive software features, leading us to believe that the Google smartwatches will include functionality inaccessible by any other Android Wear smartwatch manufacturer.

LG Watch Urbane

Along with Google Assistant, Google is said to be working on a completely new style of watch faces that allow for quicker access to the things you need, such as notifications, information (like unread email count), media controls and app functions. It's said that the controls will sit beneath the watch dial, and are very diverse in terms of the kinds of shortcuts offered, although again, specifics aren't provided at this time.

Water-resistance is said to be rated at IP68 for the Sport and IP67 for the Style.

Preview: HTC U Ultra

htc.com/uk

You might be waiting patiently for the HTC 11 but the Taiwanese firm has a new range of smartphones to tempt you with first. The new mid-range U handsets consist of the smaller U Play and this, the higher-end U Ultra. We got some time with the phones ahead of the announcement so here's our HTC U Ultra hands-on review.

Release date and price

At our briefing, HTC said the U Ultra release date will land around 'mid-February' in Europe, although it should be available in Asia prior to that.

It's yet to be disclosed as to how much it will cost but Carphone Warehouse has a preregistration

page. What we do know is that the new U range sits below the HTC 10 flagship and the firm describes the U Ultra as 'upper mid-range'.

Going by previous HTC phones like the HTC One A9, we're estimating the SIM-free price for the U Ultra at £450- to £500.

Design

HTC considers itself 'the master of metal' but the design mantra of the U series phones is 'Liquid Surface', achieved with glass.

Although the U Ultra has a metal frame similar to recent devices, the big selling point here is the eye-catching rear cover which is 'ultra thin' and 'visually sheer' using '3-axis symmetry'.

It's nice to see HTC do something different and the U Ultra is certainly that. While HTC's phones have typically been variations of grey with a sleek brushed finish, the U Ultra is altogether more striking.

Whether it's striking in good way will depend on your personal taste. There are four colours to choose from and we like the Sapphire Blue and Brilliant Black option, the latter has a slightly green tint. However, the pearlescent Ice White and Cosmetic Pink colours are more garish but perhaps that's what you're after.

The curved glass makes for a comfortable fit in the hand and although the material may be strong the metal and harder to scratch, it has various downsides. The lack of friction makes the device slippery, it's a fingerprint magnet and, we suspect, prone to shattering if you drop it. A clear case is included in the box to help with some of

these issues. A Sapphire Glass limited edition of the U Ultra will be available featuring 128GB and Sapphire front glass.

You may have noticed the lack of a headphone jack on the U Ultra so HTC is following in the footsteps of Apple and Motorola on this front. It's a shame that the USB-C to headphone jack dongle is not included. However, you do get a pair of USonic headphones which utilise the reversible port. The U Ultra retains HTC's BoomSound stereo speakers but like the flagship 10, only one faces forward.

Specifications

The HTC U Ultra is a phablet by the firm's own admission with a 5.7in LCD 5 screen that has a Quad HD (2560x1440) resolution. While that's pretty normal for today's standard, the Ultra has something more distinct about it.

Reminiscent of the LG V10/V20, the phone has a second screen above the main one which is 2in (1040x160) which is there for various reasons. In short, it's able to provide information and shortcuts, and so on.

For starters, it can provide notifications without interfering with the main screen – handy if you're busy playing a game or something. You can also scroll through different panels to get the weather, calendar, apps and contacts.

Without needing to switch the main display on (lift or double tap), the second screen will provide information such as the time, date, weather and battery percentage.

Despite rumours of the new Snapdragon 835 processor, the U Ultra has the older Qualcomm Snapdragon 821 which is still a high-end chip. Behind that glossy exterior are 4GB of RAM and 64GB of storage which can be added to with the microSD card slot.

As mentioned earlier, there's just a USB-C port (no headphone jack) and the U Ultra features a fingerprint scanner which doubles as a home button and a 3000mAh battery.

HTC typically has round cameras but the U Ultra has a square module which sticks out a fair way. The firm said it has responded to previous criticism here with a 12Mp UltraPixel camera, which has 1.55µm, and f/1.8 aperture, optical image stabilization (OIS) and dual auto-focus (Phase Detection and laser).

At the front is a whopping 16Mp camera so you can get nice high-resolution selfies. However, you can switch it into an UltraPixel mode for situations

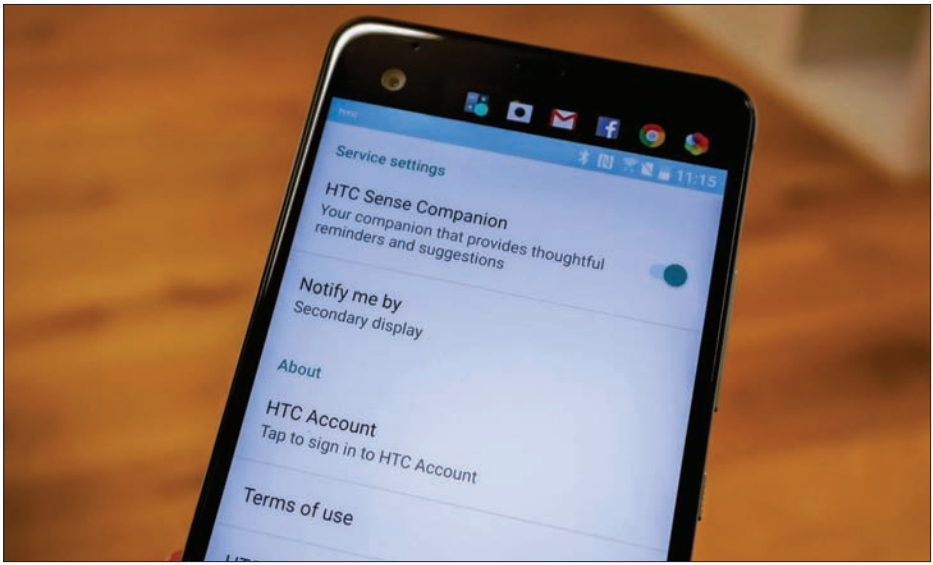
with poor light – this combines four pixels into one. Some hands-on time with both cameras suggest the U Ultra will be a decent option for photography but we'll need to test it out further.

Software

As you'd expect from a new smartphone in 2017, the HTC U Ultra comes preloaded with Android 7.0 Nougat which is the latest version of Google's mobile operating system.

While not a huge amount has changed with the UI since the HTC 10, the big new selling point is AI integration. With the rise of systems like Amazon's Alexa and Google Assistant, HTC has created its own voice assistant but it says it's not a rival to the aforementioned.

The main reason for this seems to be the fact that it doesn't talk back to you so doesn't have that



level of interaction. What it does do it listen and learn, then help where possible.

All of this manifests in the HTC Sense Companion, an app on the phone which links into the Phone, Contacts and Notifications on the U Ultra and U Play to start with. HTC is also looking at bringing it to the HTC 10.

It's the kind of thing we need to test with our own account, information and habits but it theory it will do all kinds of things starting with notifications via that second screen. HTC calls it a 'companion that provides thoughtful reminders and suggestions'.

Four always listening microphones mean you can interact with it any time hands-free (handy if you remember something you need reminding about while driving, for example) and use your voice to unlock the device. HTC claims it won't allow someone else to send a text with voice.

As well as managing things like storage and memory, the built-in AI will aim to be more helpful. Examples include letting you know that it will rain tomorrow following a few days of dry weather and giving you a reminder to charge the device during the day if you're going to run out of power in the evening when you'll need it.

Setting priority contacts for notifications will help but the phone will suggest changes if you're missing out a frequently contacted person.

You can also dismiss or snooze and alarm with your voice and the assistant will do things like suggest a change of alarm time if it's something like a bank holiday the next day so you don't get woken up at your normal time.

Preview: HTC U Play

htc.com/uk

HTC's first smartphones of 2017 introduce a new U range to the firm's portfolio where it's 'all about U'. The U Ultra (page 45) has an interesting dual screen setup but here we look at the smaller model with more basic specifications.

Release date and price

The new U phones will get release date around 'mid-February' in Europe, according to HTC but they will be available in Asia first. We expect the HTC U Play price to be around the £350 to £400 mark based on devices like the One A9.

Design

In essence, the U Play is a smaller version of the U Ultra so has the same glossy glass design which is a break from the norm for HTC. The polished glass back is far more glamorous than previous HTC devices with ostentatious colours such as Cosmetic Pink and Ice White which has a pearlescent finish containing many colours. We prefer the Sapphire Blue and Brilliant Black options, the latter of which has an underlying green hue.

The sculpted glass means the phone sits snugly in the hand and the U Play is a far more manageable size compared to the slightly unwieldy Ultra. Glass may scratch less than metal but we found both phones slippery and susceptible to fingerprints and smudges.

HTC still uses a metal frame but you'll find no headphone jack drilled into it here. Instead, the U Play just offers a USB-C port and the firm doesn't

include an adaptor in the box. You do get a pair of USonic headphones though which use the reversible port.

Specifications

While the U Ultra has an impressive dual screen setup, the U Play has a much more standard array of smartphone specs starting with a 5.2in Full HD display. There's nothing wrong with that as such and the device is much more manageable to use, but the U Ultra is more interesting in this area.

Instead of a Qualcomm chip, as found in the Ultra, the U Play is powered by a MediaTek Helio P10 octa-core processor. We could spot no obvious issues during out hands-on time but the Play has lower specs with 3GB of memory and 32GB of internal storage. It also has a microSD card slot for adding more, up to 2TB.

The spec sheet also mentions a 4GB model with 64GB of storage which matches the U Ultra, but where this variant will be available remains to be seen.

Like its bigger brother, the HTC U Play does away with the headphone jack and the firm doesn't even supply you with an adaptor. This leaves just the USB-C port and a pair of compatible USonic headphones instead. It's a bit disappointing that U Play only has a mono speaker with HTC's history of offering stereo on phones.

Other specifications include a fingerprint scanner, 11ac Wi-Fi, Bluetooth 4.2, NFC and a 2500mAh non-removable battery.

The U Play has the same front facing camera as the new Ultra, a 16Mp shooter which can be

switched into an UltraPixel mode. This means you can shoot high-resolution photos in good light but then combine four pixels into one when the conditions aren't so good.

At the rear is also a 16Mp camera which features an f/2.0 aperture, optical image stabilization (OIS), phase detection auto-focus and a dual-tone flash. Despite the high resolution sensor, the phone is limited to recording video at 1080p quality.

The cameras seem pretty good at first glance but we'll test them out properly soon when we get a review sample.

Software

There's no difference between the Play and Ultra in this area so you'll get Android 7.0 Nougat preinstalled on the handset.

The big selling point of the U phones is the HTC Sense Companion, the firm's take on an AI assistant although not a rival to the likes of Google Assistant and Amazon Alexa.

Using dual microphones (four on the Ultra), you can use the Sense Companion to unlock the phone with your voice. The AI is also there to help you out with a bunch of stuff but doesn't talk back to you.

The idea is that it learns from your personal usage and then makes helpful suggestions and notifications. For example, it will notify you of a change in the weather or remind you to charge the phone if it's going to run out when you need it.

It will link into the Phone, Contacts and Notifications to start with using your calendar to gain useful information. HTC said it will also aim to bring the Sense Companion to the HTC 10.

Review: Google Chromecast Ultra

£69 inc VAT • google.co.uk ★★★★½

Google launched its new Chromecast Ultra when it announced its Pixel and Pixel XL smartphones in October 2016.

The device looks to solve what is slowly but surely becoming the issue with cheaper mainstream media streaming devices – being able to stream in 4K HD. The Chromecast Ultra is £39 more than the regular Chromecast, but it solves that and ultimately justifies the asking price.

Design

The Chromecast Ultra is quite similar in design to the standard version, though this one adopts

Google's new 'G' logo that's also on the back of the Google Pixel. Frankly, it doesn't matter what the thing looks like, because it nestled behind you TV, hanging from a short piece of flat cable that you plug into the HDMI port. This then connects to the Chromecast via Micro-USB.

Unlike previous generations, the Chromecast Ultra is only available in black but resembles a small hockey puck, inside which wireless tech resides. The only other things in the box are the power cable and the power adaptor that also has a handy Ethernet port on it.

The unit itself measures 58.2x13.7mm while the power cable is a generous 2m. The puck itself is only 47g, so it's no problem to have it hanging from a port on the back of any television.

Specifications

The headline here is that the Chromecast Ultra supports up to 4K Ultra HD resolution streaming. It is also HDR compatible (high dynamic range), meaning on a 4K HDR TV you will get some seriously decent quality streams running. It also works up to 1080p on non-4K TVs, though the cheaper Chromecast will also do this.

Its wireless capabilities are 802.11ac, the most advanced form of Wi-Fi going, and it supports 2.4GHz/5GHz for the best possible wireless performance. Basically, it's top spec for a media streamer.

There's not much else to know apart from the devices its operation supports. You can stream from any Android device running Android 4.1 and higher, any iPhone or iPad running iOS 8.0 and

higher, any Mac or MacBook running OS X 10.9 and higher, and any Windows device running Windows 7 and higher.

There is no remote control like you get with the Amazon Fire Stick, but the idea here is different to those devices; we didn't miss having one. While they rely on apps and an on-screen interface to choose what to watch, the Chromecast Ultra works through the device you are using with it.

Software

Setup is easy, no matter what device you're using. For iOS and Android smartphones and tablets, just download the free Google Home app and follow the on screen instructions. It really is that easy, and we found it worked first time every time on every device.

We tested streaming from an iPhone, iPad, Android smartphone, Android tablet, Windows 10 laptop and a MacBook – all worked excellently with a commercial Wi-Fi router connection. It's great to have the option to use Ethernet too for an even stabler connection – simply plug an Ethernet cable (not supplied) into the power adaptor and then into your router. Having said this, we never encountered disruption to a wireless stream, though sometimes it took a minute or two to buffer up to full 4K resolution.

On iPhone and iPad you can cast music or video from apps with the Chromecast button built in. This includes popular apps like YouTube, Netflix and BBC iPlayer and it all works excellently. The thing you can't do on iOS that you can on Android (Google playing nice with Google here) is mirroring your device screen to your TV. This works well and is good way to view Facebook photos on your TV or even give a presentation at work.

On a Windows PC or Mac, you can install the Google Cast extension to your Chrome browser. This allows you to cast your Chrome tab to your TV, but not use full mirroring. You won't likely use this feature much though; the value here is in 4K video streaming.

It'd be tedious to list everything we tested with the Chromecast Ultra, but, YouTube worked perfectly from an iPhone, BT Sport ran in HD from an iPad, Netflix ran *Narcos* in 4K from a Samsung Galaxy smartphone – you get the picture. And that picture is always in excellent 4K resolution. Maybe we've been spoiled by tech because this should be an astounding feat – yet somehow

the Chromecast Ultra is kind of mundane simply because it works so well. This makes it the perfect addition to your HD TV if you are used to using video services on your other devices.

We find it far easier to stream using Chromecast than having a smart TV; often these TVs have amazing pictures but terrible user interfaces. This is the Chromecast's advantage, but remember that it relies on your device not running out of battery. The Amazon Fire Stick is a better choice if you want to only reply on mains power and a TV.

Verdict

If you have a 4K TV and a Netflix subscription, the Chromecast Ultra is worth the £69 asking price. The fact it is so easy to use and works best with the Google Home app means you can easily throw it in a bag and use it on different TVs wherever you are, as your phone or tablet carries your streaming subscriptions with you.

If you don't have a 4K TV then go with the £30 Chromecast, but otherwise if you want a no-nonsense media streamer the Chromecast Ultra is one of the best going. **Henry Burrell**

Specifications

- HDMI
- Micro-USB
- Ethernet port
- Supports all resolutions up to 4K Ultra HD and high dynamic range
- 802.11ac (2.4/5GHz) Wi-Fi
- 58.2x13.7x58.20mm
- Device, 47g; adaptor, 101g

Review: Honor 6X

£224 inc VAT • hihonor.com ★★★★☆

In 2016 Huawei took big, confident strides into the Western market. It's continuing to do so right at the start of 2017 at CES, announcing the US availability of its flagship Mate 9 and this, the Honor 6X. Honor is Huawei's not-so-secret sub-brand, its phones largely similar to its parent brand with lower specifications. That's not to say Honor smartphones are inferior. You may be considering the 6X if you are on a budget and aren't concerned with the highest specs possible. Here we see how it compares to other similarly-priced Android phones.

Price

After it was announced at CES in January 2017, the Honor 6X was made available immediately in the UK. You can pick one up for just £224 from vMall UK. That's outstanding value for the amount of smartphone you're getting. It's also good to see it so easily available in the UK, unlike some Huawei phones. Just be aware that, as we will explain further, the specs differ for each region. In the UK, the Honor 6X is available with 3GB RAM and 32GB internal storage.

Design

The Honor 6X looks better than its price tag suggests. It's available in gold

with a white front, silver with white, and grey with black as modern smartphone trends dictates. It has a generous 5.5in screen with thin bezels on the sides meaning the device isn't overly huge in small hands. The overall dimensions are 150.9x76.2x8.2mm and the weight of 162g is about right for a phone of this size; it's certainly not too heavy.

The rear casing has a pleasant curve to it so that the phone is comfortable to hold in one or both hands, and the texture of the rear is akin to an iPhone's metallic sheen – again, great to see at this price. Also packed into the phone are dual rear-facing cameras (more on those in a bit) that sit above a fingerprint sensor, a front camera, power/lock button, volume keys, headphone jack, SIM/microSD slot, Micro-USB port and speakers on the bottom edge.

Out the box, the 6X also comes with a handy pre-applied screen protector that you can of course discard if you want.

Without banging on about the price, this is a good-looking phone with higher-end materials to back it up. It doesn't compromise on the look, and for that it is commendable.

Performance

So it's an attractive Android handset at a good price. Where does it cut corners we hear you ask? Well, it does, but not to the extent you might expect. The 6X still has enough tricks – tricks, not gimmicks – up its sleeve to warrant praise. The 5.5in screen is a full HD display with a resolution of 1920x1080 and a pixel density of 403ppi.

The 6X is powered by a Huawei Kirin 655 octa-core processor that is firmly in mid range territory, but it had no real trouble browsing the web, shooting off texts from various apps, playing games or videos or anything else we threw at it.

The phone is heavily marketed on its appeal to millennials, hence the dual rear cameras and photo-editing software that may appeal Instagram and Snapchat addicts. One camera is 12Mp and the other 2Mp with a wide aperture range from f/0.95 – f/16, and they're able to produce surprisingly decent effects. More on that in the software section further into this review. It is also capable of full HD recording, plus there's a decent 8Mp front-facing camera.

Honor is releasing this phone to several markets with different specifications depending where you are. In the UK, the 6X is available with 3GB RAM and 32GB storage, but our review model is the 4GB RAM and 64GB storage version. This will mean that ours is capable of ever so slightly more multitasking, but 3GB is still excellent for a smartphone (and, again, a steal at the asking price). So don't worry. You can expand the internal memory up to 128GB with a microSD card.

You even get NFC at this price, and full compatibility with Android Pay, which is impressive. It's also great to see a huge 3340mAh

battery onboard. Honor claims this will last two days on moderate use and 1.5 days on heavy use. We found this to be pretty much bang on – the 6X didn't let us down for nigh on two days using it for all our smartphone needs. Very impressive.

In our benchmark test, the 6X performed as expected, with a decent score for its onboard specs. It even compared surprisingly well against its parent company's Huawei Nova that retails for over £100 more. It also came out very similar to our usual budget phone of choice, the Moto G4 (over £50 less at £159).

Software

Software is unfortunately where this phone is let down slightly, but bear with us on this. The Honor 6X ships with Android Marshmallow 6.0 with Honor's (read Huawei's) skin Emotion UI 4.1. Considering Android is now into 7 and above and the Huawei Mate 9 comes with EMUI 5, it's quite behind. However, at CES the company stated in a presentation that the 6X will receive an update to Android Nougat and EMUI 5 at some point in Q2. So, fingers crossed, if you buy the Honor 6X, it'll have the latest software updates by July 2017. This is not something to get overly upset about considering it's a tad over £200. Many Android phones don't get such upgrades for months. What's more annoying is the software itself, which is one of the most modified versions of Android on the market.

Little things such as not being able to pull down the notification panel on the lock screen or there being no app tray (so that apps display as an iOS

style grid) may well be minor things, but ones we missed when using the device. The joys of Android are hidden in its quirks and customisations, but EMUI decides to give a little fewer to you than other manufacturers.

One cool thing you can do is use the rear fingerprint sensor to pull down and retract the notification panel or scroll left to right through pictures in the Gallery, while you can turn on a function so when you uninstall apps you can physically shake your phone to realign them. Other little things you might only expect in higher end phone are here too, like the ability to view the homescreen in an attractive landscape angle. Having said all this, the EMUI 5 update will bring an app tray option, so all is not lost. Plus, we are nitpicking. The notification pull-down panel on the Honor 6X with EMUI 4.1

Cameras

The camera software leads the marketing for the 6X front and centre. The bottom line is while it is capable of cool shooting effects, the results will never be as good as other dual camera phones with better parts such as the iPhone 7 Plus or Huawei's own P9.

The rear cameras definitely perform best on near shot subjects and macro style photos. There's a cool wide aperture mode that allows you to background blur images on a sliding scale before capture, a 'splash' mode to isolate one particular colour of an image with the rest in monochrome, or a long exposure mode to capture streams of car lights at night, for example. There's also the usual

Honor addition of beauty mode for selfies, which remains plain weird.

All the usual apps we use, from Facebook and Instagram to Skype, National Rail and Words with Friends opened pleasingly quickly, with multitasking speeds more than acceptable. As with all Android phones you can expect a decline in speed over time, but as tested, the Honor 6X actually made us feel more positive about the whole experience of using it daily because it's just so cheap but its hardware and software just don't feel it.

However we can say with confidence that the Honor 6X will please what is clearly its target market – teenagers and young adults on a budget who want to take decent pictures all day without the battery dying. In this respect, the phone succeeds admirably.

Verdict

The Honor 6X manages to be a budget phone but not remotely feel like one. This is high praise, and while it could never hold a candle to the performance of phones three times the price, that's not the point – the Android experience you get is still nigh-on top drawer. As long as you can get on with Huawei's still-not-there EMUI skin, the Honor 6X is one of the best, most affordable mid-range Android handsets going – and it's easy to pick one up in the UK. **Henry Burrell**

Specifications

- 5.5in (1920x1080, 403ppi) full HD display
- Android Marshmallow 6.0
- Huawei Kirin 655 octa-core processor (4x 2.1GHz and 4x 1.7GHz)
- Mali-T830MP2 GPU
- 3GB or 4GB RAM
- 32GB or 64GB storage with microSD up to 128GB
- 12Mp/2Mp rear-facing dual cameras with LED flash, support for 1080p video at 30fps
- 8Mp front-facing camera
- 802.11b/g/n Wi-Fi; Bluetooth 4.1
- Nano-SIM
- GPS
- NFC
- 3340mAh non-removable battery
- 150.9x76.2x8.2mm
- 162g

Review: Lenovo P2

£199 inc VAT • lenovo.com/uk ★★★★☆

If there's been one universal feature of the smartphone era, it's been battery gripes. Charging your device on a daily basis has become the norm, and almost all of us have a portable battery pack sitting around for when we can't get to a charger in time. That's where the Lenovo P2 comes in, offering solid specs and performance, an attractive price point, and what Lenovo claims is a whopping three-day battery life.

But can the P2 live up to Lenovo's claims, or does it simply run out of juice? We've spent a week putting the phone through its paces, and we think it might be one of the best mid-range Android phones around.

Price

The Lenovo P2 is currently available exclusively through Three in the UK, and you can buy it on Pay As You Go for just £199.99, which is great value given the phone's specs and build quality, which we'll go into later. You can also grab it on a 24-month contract, starting at £18 per month with no upfront cost.

That puts the P2 in the same sort of price band as the Honor 6X, currently available for £225, and the Moto G4, which you can grab for £159, and we compare the phones' respective performance in a little more detail below. It's worth bearing in mind that the P2 comes with varying specs and colours depending on the region, but right now, the UK release is limited to the grey model with 32GB of storage and 4GB of RAM.

Design

For a £200 phone, the Lenovo P2 looks and feels a lot better than you might expect. It boasts a metal body that leaves it feeling much more expensive than it really is, and the Lenovo branding is kept to a fairly subdued logo on the bottom of the phone's rear side. The UK is getting a graphite grey model with a black front, though other regions are also getting it in champagne gold. The width of 8.5mm is impressively slight given the supercharged battery they've had to squeeze in, while the weight of 177g is typical for a phone with a metal body.

The 5.5in screen feels generous without making the phone uncomfortably large, and there are fairly slim bezels at the side of the screen. Otherwise the

front of the phone boasts a speaker and camera at the top, and a fingerprint sensor button at the bottom, while the rear has the main camera and flash, and that's about it. Elsewhere there are the usual power and volume buttons, microphone and speakers, 3.5mm headphone port, dual SIM and microSD slot, and an extra button to switch on a power saving mode – more on that later.

The overall impression is a phone that hides its price point well, and in terms of build it would be hard to argue that you aren't getting your money's worth, so we're pretty impressed.

Specifications

The Lenovo P2's headline feature is no doubt the massive 5100mAh battery, which is among the biggest we've seen in a smartphone yet. Lenovo boasts that the P2 can manage a full three days of usage from a single charge, but we were sceptical

- until we actually gave it a go. After 72 hours of standard usage (including checking emails, listening to music, Bluetooth, GPS-intensive apps like Google Maps, and even a one-and-a-half hour video Skype call) the P2 was still ticking along with a few percent left in the tank. Even after just a week of using the phone, it was a huge relief to find ourselves no longer worrying about battery life or planning around the next charge – in that sense the P2 felt totally reliable.

It's equipped with fast charging via Micro-USB with a compatible charger, and you'll want it – all that extra battery capacity means extra charging time. Still, you can top it up with about 10 percent in 15 minutes, which should be enough to keep it running for eight or nine hours. If you want to keep it running for even longer, a flick of a small switch on the left side of the case will activate 'Ultimate Power Saver', which essentially dumbs your phone down – you're left with the ability to send and receive calls and texts, and use simple apps like the clock (for your all-important alarms), calculator and calendar, but that's it. It also tells you how long your battery will last while you stay in this mode – with 80 percent of battery left, it predicted another 81 hours of charge. It's worth noting that when we tested the phone's battery and kept it running for three days that was without using the power saver mode – so in theory you could keep it going for even longer.

Lenovo is actually so confident in the P2's battery that the phone can even double up as a power bank for your other devices. It comes with an included USB-to-Micro-USB adaptor so that

you can connect your phone directly into another phone, tablet, smartwatch or other gadget and share some of its battery power. In our testing it didn't seem to charge other devices especially quickly, but it could be a great save if you find yourself in a pinch, and could save you from lugging a power bank around with you.

Getting beyond the battery, the rest of the P2's innards are pretty typical for the mid-range market. It's probably no surprise that it uses a relatively power-friendly 2GHz Snapdragon 625 processor – it's not going to come top in any performance charts, but it's plenty for most purposes, and together with the 4GB of RAM it means day-to-day usage feels fast and responsive. You also get Bluetooth 4.1, NFC, 4G, and 802.11

b/g/n Wi-Fi – pretty much what you'd expect from a smartphone these days. As for storage, you get 32GB, but that's expandable with a microSD card – though that will take one of the two SIM card slots, so if you want to use it as a dual-SIM phone, you'll have to make do with the internal storage.

In benchmarks, the Lenovo P2 offers similar performance to the Honor 6X and the Moto G4, two of the other phones we recommend around this price, and does comparatively well on the graphics tests in particular. With roughly equivalent performance and pricing, the P2's exceptional battery life makes a pretty compelling argument for picking it up.

Cameras

The two cameras are also pretty typical for a mid-range Android device, with 13Mp for the rear camera and 5Mp for the front. Photos are crisp and bright, and look great on the bright AMOLED display, but don't expect anything exceptional – not that you should, given the price. There is also a 'quick snap' feature that lets you take a photo when the phone is asleep by double tapping either volume button – great for photographing something in a rush, though don't expect pixel perfect photos from it.

Software

The P2 comes with Android 6.0 (aka Marshmallow) preinstalled, but we don't know if or when it might get an update to the more recent Nougat version. It runs a version of the OS that's pretty close to stock,

but with a few minor tweaks – mostly to allow you some extra customisation. There are some new power management tools to help keep the battery going for even longer, some minor changes to the app drawer and a few extra settings dotted around here and there. You can also map the Android navigation buttons to the fingerprint sensor (touch for back, press down the button for home, and long press to open your recent tasks), saving you some precious screen real estate.

It's mostly pretty minimal, so there's not too much running on top of the base Android OS, which helps keep things fast and battery-friendly. It does come preinstalled with a fair few apps you might not be interested in, like Three inTouch and Lenovo's SHAREit and SYNCit, along with the likes of Deezer and Amazon, but these are all easy to

uninstall, so there's no need to keep them on the device if you don't want to.

Verdict

The Lenovo P2 is really being sold on the strength of its battery, and the great news is that it lives up to the company's hype, offering you days of usage and a power bank in a pinch. Throw in the premium design and build quality, and you have a phone that delivers tremendous value for money. It may not boast flagship performance, but by the time you hit your third day without charging, you're not likely to care that much. **Dominic Preston**

Specifications

- 5.5in (1920x1080, 403ppi) Super AMOLED touchscreen
- Android Marshmallow 6.0
- 2GHz Qualcomm Snapdragon 625
- Adreno 506 graphics
- 4GB RAM
- 32GB internal storage, up to 128GB microSD
- 13Mp main camera, with PDAF and single LED flash, support for 4K video at 30fps
- 5Mp front camera
- 802.11 b/g/n Wi-Fi
- Bluetooth 4.1
- 4G LTE
- Dual Nano-SIM
- GPS
- NFC
- 5100mAh non-removable battery
- 153x76x8.5mm
- 177g

Review: Elephone S7

£177 inc VAT • elephone.hk ★★★★☆

Elephone's S7 is a sub-£200 phone with a lot going for it – not least its gorgeous design – and in some respects it even bests its namesake Samsung Galaxy S7. But this is a decent phone in its own right, and not just a copycat.

Price

It's available in several versions, so you'll have to double-check which you are buying before you go ahead. We reviewed the blue model with a Helio X20 processor, 4GB of RAM and 64GB of storage, which ships free from TomTop's Chinese warehouse for £177 at the time of writing. Because you are buying from China you may be asked to pay import

duty upon its arrival to the UK, which you will need to factor into the total cost.

Packages usually come via DHL, which charges 20 percent of the value written on the shipping paperwork, plus an £11 admin fee. In this case then, assuming the full value is on the paperwork, that would work out around £46 and take the total cost up to around £222. That's still fantastic value for a phone with such a pleasing design and decent specifications.

Alternatively, if you're happy to buy the black version instead, you can get it shipped from the EU warehouse. Assuming you will pay import duty on the full value of the phone when bought from China, then buying from Europe will work out cheaper, at £192. You won't have the hassle of paying any fees before you can receive your item, but you do miss out on the opportunity to own the blue model, which is a real looker.

The S7 also comes in green and gold colour options, and in variations with 2GB of RAM and 16GB of storage or 3GB of RAM and 32GB of storage. We're told there is also a version of the Elephone S7 with a 5.2- rather than 5.5in screen.

Finally, a top end option has 4GB of RAM and 64GB of storage, but an upgraded processor in the form of the Helio X25. It is similar to the X20 but runs at a higher clock speed. This model is available for £188 from TomTop at the time of writing. With every version available under £200, you would likely be on a tight budget to opt for anything other than the top model. That said, those who aren't too bothered by performance might be happy with one of the lower models, and as all

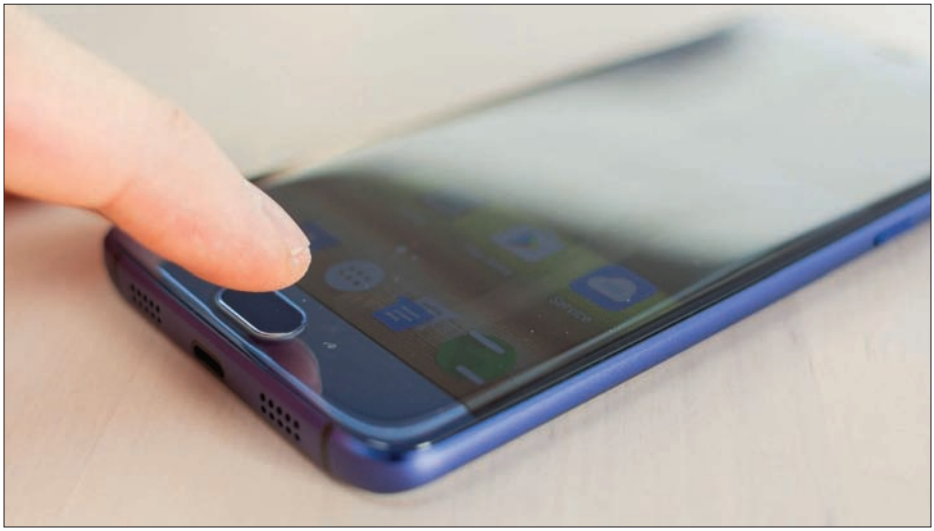
support microSD up to 128GB you needn't worry too much about the storage differences.

Design

One of the best things about this phone is its design. To be honest, knowing there were 5.2- and 5.5in versions we had to get out a ruler to check we were actually holding the 5.5in model. This is a large-screen phablet, yet it feels much smaller with its minimal bezels to the left and right, curved edges on the front and rear, and ultra-thin 7.6mm chassis.

At 175g, it has the weight of a standard phablet, but its petite dimensions make the S7 one of few phones of this size we can comfortably use in a single hand.

That's not even the best bit, though. With its mirror finish light bounces off this phone like a jewel, with what looks like beams of light running



right across its surface. It is absolutely stunning – particularly in blue – and that is something we never thought we'd say about a plastic phone.

Though its rear panel is designed to look like the glass panel on the back of the Galaxy S7, it's actually a glass front and plastic rear, which meet in the middle around a thin metal frame.

In the hand, the plastic rear makes it feel a little cheaper than what we've come to expect from mid-range Chinese phones, where metal is now the norm, but we like the smooth, albeit slippery, surface. Our only real concern is that it seems to scratch easily, even just sitting on our desk. Meanwhile, the age-old problem of fingerprints isn't overly noticeable.

The 5.5in JDI fully laminated in-cell display is jet black in standby, creating a gorgeous contrast against the blue frame. When switched on it's equally appealing, with a sharp full-HD resolution of 1920x1080 pixels. Colours are good, as are viewing angles.

Usually when we look at phone screens we comment on their brightness, but with the S7 it's not how bright it can go that impresses, but how dull it can go. You can reduce the brightness all the way down to 1 nit to eliminate night-time glare; there's also a blue-light filter to protect your eyes.

The layout is standard, with volume and power buttons on the right side, a SIM tray on the left, headphone jack up top and Micro-USB port and speaker grilles below. Although there are two, it appears to be a mono speaker inside.

Below the screen is a Home button that builds in a fast fingerprint scanner, which uses a self-

learning mechanism to operate in just 0.1 seconds. We're not so keen on the fact it is the only button here, though you can activate an on-screen navigation bar in the Settings. As standard you tap the Home button to go back, press it to go home, long-press it to open the Recents menu, or press it twice to access a shortcut key. By default this will open the Settings menu.

We were intrigued to see the Elephone S7 advertised with an iris scanner as an alternative to the fingerprint scanner for security. The preinstalled software includes Smart Lock, which can be activated once you have set up a screen lock and allows you to add trusted devices and places, and set up face-, voice- or body detection. Whenever the Elephone detects any of these things, the phone stays unlocked.

Performance

The Elephone S7 is a deca-core smartphone with the Helio X20 processor inside, also known as the MediaTek MT6797M. This processor is paired with 4GB of LPDDR3 RAM and 64GB – at least in this

instance, plus the Mali-T880 GPU. Performance is very good for a mid-range phone, but in line with other smartphones using the same processor, such as the Xiaomi Redmi Note 4 and Vernee Apollo Lite.

The Elephone S7 recorded a very high 4237 points in the Geekbench 4 multi-core general processing benchmark (and 1597 points single-core), but its results weren't as spectacular elsewhere. We recorded 82,836 points in AnTuTu 3D, 23-, 14-, 10- and 6fps in the T-Rex, Manhattan 3.1, Manhattan and Car Chase components of the GFXBench graphics benchmark, and 25.493 in the JetStream JavaScript benchmark.

On paper, given the specs, you might think it would be a rival to flagships such as the Galaxy S7, but in reality the deca-core processor might have more cores but it isn't as powerful as Samsung's Exynos chip, and though it matches that phone's RAM in capacity it's of the slower LPDDR3 variety. Nevertheless, it's difficult to argue with performance at this price point, and the Elephone

S7 is more than capable of pretty much anything you can throw at it. Even gaming graphics, although not flagship-level, are easily playable and videos look good. Navigation and the launching of apps isn't as instantaneous as on a flagship, but neither is it slow.

Storage is a highlight of the S7, and not only does it (in this version) come with 64GB built-in but there's also a microSD slot that lets you add up to 128GB. Combine this with cloud storage and you'll never run out. A downside of that microSD card slot is that it occupies the same space as the second SIM slot – you can't have both at once.

Fast charging over Micro-USB is possible with a suitable charger, and the S7 can reach 50 percent in 30 minutes or 90 percent in 60 minutes. This is a 3000mAh non-removable battery, but in our experience it drains fairly rapidly even on standby. Depending on your usage you'll likely get a day, but no more – heavy users should be prepared to carry a power bank.

Connectivity

Even now, if you want a dual-SIM phone your best option is to buy a Chinese phone. While smartphone manufacturers seem to think no-one in the Western world has a need for two SIMs, in China it would be more of a surprise to find a phone that didn't support the functionality.

The Elephone S7 is no exception, a dual-SIM dual-standby smartphone with a hybrid SIM slot much like those found on Xiaomi phones. It can accept either two Nano-SIMs, which are both functional for calls and texts at all times, but only

one for data, or it can accept one Nano-SIM and one microSD card up to 128GB in capacity.

A key difference between this and Mi phones, however, is that this one supports all UK 4G bands, not leaving O2 customers on the 800MHz band out in the cold with only 3G connectivity to get online.

There's no NFC on this smartphone, which is necessary for Android Pay; nor is there an IR blaster, though these are becoming increasingly rare. Other connectivity bases are covered with dual-band 802.11a/b/g/n Wi-Fi, Bluetooth 4.0, GPS and OTG.

Cameras

Cameras are acceptable but basic on the Elephone S7, which isn't entirely unexpected. The main camera is a 13Mp, f/2.2 snapper with a single-LED flash, which means it isn't going to be much good in low light, while there's a 5Mp selfie camera at the front. The Camera app is disappointing, with support for real-time filters, but very little else. There's a Picture-in-picture mode and Panorama, and some options can be tweaked in the settings, but we couldn't find even an HDR mode.

The test image (left) was taken on an admittedly grey, rainy day, but even so the results make it look more like the world is about to end. Significant blurring is visible toward the edges, while the central part of the image is over-sharp.

Software

The Elephone S7 runs a vanilla version of Android Marshmallow, so there are no nasty surprises in store. Google's own apps are preinstalled

(including Google Play), with very few additions. Those that are here include an Elephone Service helper app, a Search app (that is not Google Search and cannot be uninstalled), a Sound Recorder and a TaskManager. You also get a Turbodownload mode that combines cellular and Wi-Fi data to speed downloads.

The one thing we struggled to get used to was the lack of a navigation bar – the single Home button is used in place of the usual three (Home, Back and Recents), with various patterns of taps and presses doing different things. As we mentioned earlier, pressing the Home button twice acts as a shortcut to an app of your choice. By default, it opens the Settings menu, but you can choose any app you like on the phone.

Fortunately, you can switch on the navigation bar from the Settings menu. Once activated you swipe up from the bottom of the screen to display it, and click the triangle icon to hide it. Gestures are supported only so far as three-finger screenshots and two-finger volume adjustments.

Verdict

The S7 is a very good-looking phone at an affordable price, with decent performance and a generous helping of storage. On the downside, the cameras are disappointing and the rear panel is plastic. Even at this price you don't need to compromise so heavily. **Marie Brewis**

Specifications

- 5.5in full-HD (1920x1080) display
- Android 6.0 Marshmallow
- 2GHz Helio X20 deca-core processor
- Mali-T880 GPU
- 4GB RAM (also available with 2- or 3GB)
- 64GB storage (also available with 16- or 32GB)
- microSD support up to 128GB
- Dual-SIM dual-standby (2x Nano-SIM)
- 4G FDD-LTE 800/1800/2100/2600MHz
- 802.11a/b/g/n Wi-Fi; Bluetooth 4.0
- GPS, OTG, fingerprint reader
- 13Mp, f/2.2 rear camera with LED flash
- 5Mp front camera
- 3.5mm audio jack
- 3000mAh non-removable lithium-polymer battery
- Micro-USB
- 150.4x73.2x7.6mm
- 175g

Review: Meizu MX6

£256 inc VAT • meizu.com/en ★★★★☆

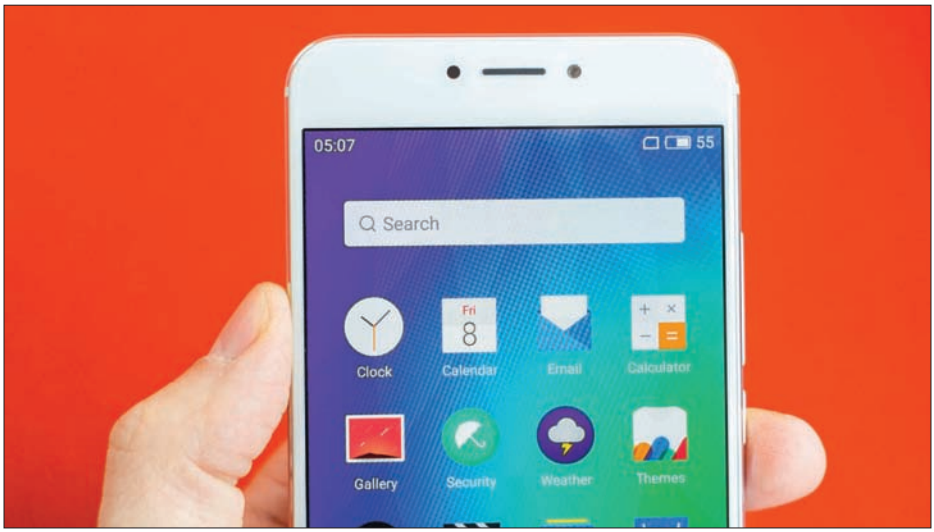
First impressions of the MX6 from Meizu are good. On paper it's got a decent spec that includes a deca-core processor, 4GB of RAM and 32GB of storage, and out the box it's a well-made and good-looking metal handset with a design somewhere between the latest iPhone and the HTC 10 – and, oddly enough, it's available in rose gold, grey, silver and gold.

At £256.99 from Amazon this is a mid-range smartphone, but the MX6 offers more for your money than phones you might find on the UK High Street. As you've probably guessed from the unfamiliar name this is a Chinese phone, but from a company well-known in its homeland.

In the past Meizu phones have reminded us of those of Xiaomi, of which it is a competitor, offering great value for money and coming preinstalled with a similarly customised Android interface that places everything on the Home screen, but with no Google apps built-in. Flyme, the OS used by the MX6, is very different to Xiaomi's MIUI, but we'll get on to that later.

In common with those phones, the MX6 did not come preinstalled with Google services. However, upon turning it on for the first time we received a notification instructing us to install them. This might be disconcerting for new users, but installation proved a painless process and within a few moments we were able to log into our Google account and start downloading apps from the Google Play store.

The addition of Google services makes this Meizu phone much easier to use than the



previously reviewed Meizu M3 Note – it's only a shame they weren't preinstalled before we took it out the box. Other than installing Google services, no tinkering is required for setting up this phone for UK use, which is reassuring for a Chinese phone.

Design

Our only issue with usability regards the 'mTouch' Home button on the front of the phone. It works exactly as you'd expect for a Home button with a fingerprint scanner built-in, in that you press it to be returned Home or to unlock the screen (though irritatingly for the latter you must either press it a second time or long-press to unlock it).

Our issue is with the lack of any buttons to the side of it and, unlike the recently reviewed Elephone S7 which has a similar setup, there's no option in the Settings menu to enable a navigation bar. To go back you tap the Home button, to lock the screen you long-press it, and to access the Recents menu you swipe up from the bottom of the screen (but not directly above the Home button). You can enable a Multi-window feature from the Recents menu, too, but not all apps are supported.

But while it's frustrating in use at first, this setup does enable a very clean design with no button legends below the screen. And it's largely the same on the rear, with an inoffensive Meizu logo and a small (and very Apple-esque) scrawl at the bottom that says the phone was designed by Meizu and assembled in China. We're not entirely keen on the camera bump protruding from the rear, but it's something that is becoming increasingly common on Android phones and not so drastic that the

phone will rock when used on a desk. The overall design is very good, if similar to dozens of rival handsets, with a metal unibody and almost edge-to-edge 5.5in display. Although it's heavier than many phones of its size at 155g it feels very small for a phablet, in part due to those slim bezels and in part to the 7.25mm ultra-thin frame and curved corners and edges - it's rounded on top with 2.5D curved glass, and on the rear. In fact, it's from the side that it arguably looks most like an iPhone.

The Meizu MX6 looks very much like a smaller version of the flagship Meizu Pro 6. We haven't reviewed its predecessor, the MX5, but from what we understand the MX6 isn't a vast improvement over it. In place of an AMOLED panel with Gorilla Glass there's a TDDI in-cell display with no protection, rather than a 20.7Mp primary camera there's a 12Mp snapper, and the battery is 100mAh lower in capacity yet the phone is wider and thicker.

We're not sure why Meizu has opted for a TDDI in-cell display over AMOLED, nor why it hasn't fitted Gorilla Glass and left the screen glass vulnerable. AMOLED is our favourite type of screen tech, very thin and energy-efficient with excellent contrast and saturated colours. The TDDI panel here combines usually separate screen layers and has a two-layer touch control system. It is very responsive to touch, and still offers saturated colours, good contrast and brightness (particularly at the lower end of the scale, going right down to 1 nit for easier nighttime use), but it can appear cold.

The design is otherwise mostly standard, with a USB-C port and speaker grille at the bottom, a dual-SIM tray on the left edge and a volume rocker and a

power button on the right. However, you'll note that in Flyme OS this volume rocker controls only the media volume (Silent mode is accessible from the pull-down notification bar, but to adjust the volume rather than mute the phone you need to enter the Settings menu), and that the headphone jack is unusually located at the bottom of the handset.

Performance

The MX6 is the first in Meizu's MX family to get the Helio X20 deca-core processor, which is similar to the Helio X25 but clocked slower at 2.3GHz. It combines four Cortex-A53 cores running at 1.4GHz with four running at 1.9GHz and two Cortex-A72 cores at 2.3GHz. The Mali-T880 GPU is integrated, and it's paired with 4GB of LPDDR3 RAM.

It's a very similar specification to that of the cheaper Elephone S7 (which happens to offer double the storage at 64GB plus the possibility of expansion through microSD). We've also seen this

chip in the Xiaomi Redmi Note 4 – perhaps a closer competitor but with a larger battery – and Vernee Apollo Lite. All three of these smartphones come in significantly cheaper than the Meizu MX6, but performance is reasonably similar. If anything the MX6 performed less well in our benchmarks, which may be an effect of Flyme OS.

In real-world use the Meizu feels fast, and even the camera app launches quickly. Things could be sped up with the ability to wake and unlock the screen with a single tap of the mTouch button, but we don't think you'll have any issues with navigating the handset once you're in. Games and video shouldn't present a problem either.

The Meizu MX6 comes with 32GB of storage built-in which, compared to UK phones at this price point, is very generous. However, we're disappointed to find the dual-SIM slot doesn't allow you to substitute the second SIM for a microSD card. If you need more than 32GB of storage you'll need to rely on the cloud or a separate device.

The battery is a non-removable model that charges over USB-C. Using a compatible charger mCharge allows the battery to fill from zero to 100 percent in 75 minutes. Its 3060mAh capacity won't last you longer than a day, though, so be ready to charge it every night.

Connectivity

Before buying any Chinese phone you should ensure it will work on your network. The Meizu MX6, in common with Xiaomi phones, does not support the 800MHz 4G band in the UK. It does still work on the 2100MHz and 2600MHz UK 4G bands,

but all the major mobile operators hold 800MHz frequency, which means your coverage might not be as wide as it was on a previous smartphone.

We used the MX6 on the Vodafone network, and found we didn't seem to receive 4G connectivity as commonly as previously, but that connectivity was never an issue – at least not in places we could previously get online.

For O2 customers and those of any virtual mobile operators that piggyback its network (for example Giffgaff and Sky Mobile), the lack of 800MHz (aka Band 20) will be frustrating because it's the only 4G frequency held by O2. If you use any of those networks you will not receive 4G at all on the MX6, though you will still be able to get online via 3G and dual-band 802.11a/b/g/n/ac Wi-Fi.

The MX6 allows you to add a second SIM (both are Nano-SIMs), which could potentially allow you

to use separate contracts (from separate operators) for your calls and texts, and mobile data. Or you could insert a business SIM, allowing you to make and receive business calls without having to carry a second phone.

The dual-SIM setup is dual-standby, which means either SIM can send and receive calls and texts, although you can't make a call on both SIMs at once. You will need to select only one of the SIMs for mobile data, although you can switch which is used in the Settings menu.

Meizu's MX6 also supports Bluetooth 4.1, GPS, A-GPS and GLONASS, though there is no NFC for making mobile payments.

Cameras

For photos the MX6 is fitted with a Sony IMX386, a 12Mp, f/2.0 camera with a six-element lens, PDAF, 1.25µm large pixels and a dual-tone flash. It can record 4K video at 30fps.

The camera app supports many of the usual modes, real-time filters and a countdown timer, but HDR is hidden in the Settings menu and with no auto option. That's an improvement on the Elephone S7 mind, which has no HDR mode at all.

In our experience, though, you will want to leave HDR switched on in any case. In the first of our two test images below (shot in Auto mode) the sky is completely blown out, whereas things look far more realistic with HDR switched on (second shot).

The results are fairly average, and with a reasonable amount of noise visible, particularly in low light. Shot in good light the colours, contrast and white balance are accurate, though the images

Auto settings

HDR on

aren't as sharp as we'd like. The Meizu MX6 also has a 5Mp, f/2.0 selfie camera with a four-element lens. You get all the same options as in the main camera app, but with the addition of the ability to flip the screen to get a mirror image.

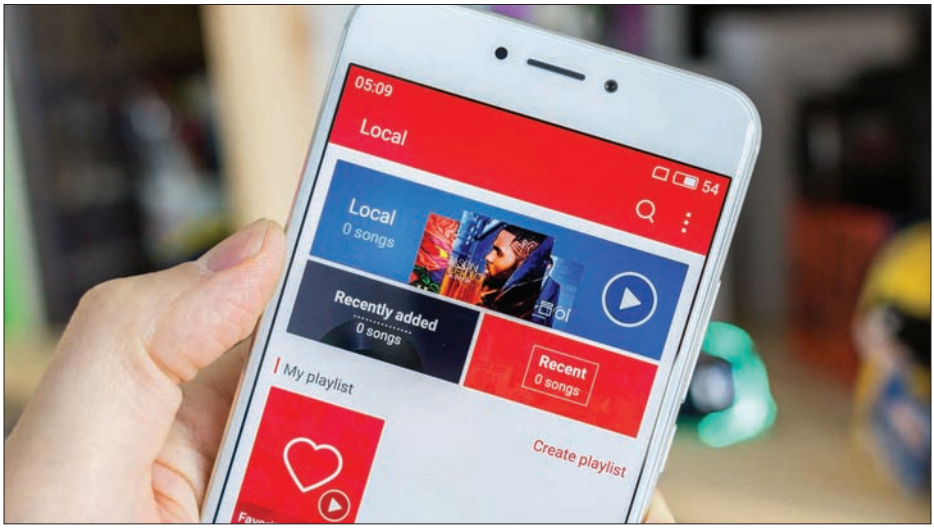
Software

Meizu installs Flyme 5.5 on the MX6, which is a customised version of Android 6.0 Marshmallow. Upon turning it on for the first time you'll be prompted to download Google services, which gives you full access to Google Play and the Android apps with which you're familiar. We chose to download Google's apps for Maps, Drive, Calendar, Music and so on. You can use Meizu's alternatives, although you can't uninstall them if you don't want them.

The first most obvious difference between Flyme OS and Marshmallow is the removal of the app tray. Shortcuts for all your apps are found on the multiple home screens, which is a very iOS-esque setup that you'll either love or hate. We prefer to be able to hide away the apps we need but don't frequently use for a less cluttered interface, but here to do that you'll need to create folders.

The second most obvious difference is the removal of the navigation bar – another Apple-style move. Instead you use the mTouch button as both home and back, and swipe up from the bottom of the screen to access recents. We don't like this setup, but if you're familiar with iOS you may see things differently. We have no doubt that given more time we would get used to the change.

You can also place anywhere on screen a SmartTouch button, which in part replicates the



mTouch button, but can also be used for screen hovering (which just seems to move half your apps off-screen), unfolding the notification bar, locking the screen and launching the tasking menu. On larger phones such a feature makes for easier one-handed use, though that shouldn't in itself be a great issue with the MX6.

The notification bar is also a little different. Pull this down to access customisable quick-access toggles for Wi-Fi, Bluetooth and so on, plus a screen brightness slider.

Extra software options include an extra-large mode, the ability to set the colour temperature of the screen, and an adjustable blue light filter to protect your eyes from glare. There is support for gestures, such as the ability to double-tap to wake the screen, as well as customisable gestures that you draw on screen in standby to wake the phone and launch a specific app.

Verdict

The Meizu MX6 is a nicely designed phone, but compared to the Xiaomi Redmi Note 4 and Elephone S7 it is expensive and underpowered. The MX6 still has a great deal to offer at around £250, but we're not keen on Flyme OS or mTouch, and the MX6's camera isn't the best example we've seen. **Marie Brewis**

Specifications

- Flyme 5.5 (based on Android Marshmallow 6.0)
- 5.5in full-HD (1920x1080, 403ppi) fTDDI display
- 2.3GHz Helio X20 deca-core processor
- ARM Mali-T880 GPU
- 4GB LPDDR3 RAM
- 32GB storage
- mTouch fingerprint scanner
- 12Mp, f/2.0 Sony IMX386 rear camera with six-element lens, dual-tone flash, PDAF, 4K video at 30fps
- 5Mp f/2.0 front camera with four-element lens
- Dual-SIM dual-standby (2x Nano-SIM)
- 4G FDD-LTE 1800/2100/2600MHz
- Dual-band 802.11a/b/g/n/ac Wi-Fi
- Bluetooth 4.1
- GPS
- A-GPS
- GLONASS
- 3.5mm headphone jack
- USB-C
- 3060mAh non-removable battery with mCharge (charges in 75 minutes)
- 153.6x75.2x7.25mm
- 155g

Review: Vernee Apollo

£240 inc VAT • vernee.cc ★★★★☆

We've been saying VR (virtual reality) is the next big thing for over a year now, but 2017 really will be the year VR comes to phones. Samsung's upcoming Galaxy S8 and LG's G6 are among those expected to come with large, high-resolution screens and meaty processors and GPUs to enable the best mobile VR. Those are Snapdragon phones, so what of MediaTek?

The current best (available) MediaTek processor is the Helio X25, which is a deca-core chip that combines two clusters of four low-power, efficient Cortex-A53 cores with a high-performance Cortex-A72 duo, and integrates the 850MHz Mali-T880 MP4 GPU. Don't assume the Helio X25

is on par with – or with 10 cores even better than – the quad-core Snapdragon 820/821, which is paired with the Adreno 530 GPU and comes in many of today's flagships; in our benchmarks the Qualcomm chip outdoes it every time. We expect to see a similar situation with the upcoming Helio X30 and Snapdragon 835 - MediaTek X25 processors are ideal for the very best mid-range phones, but not really what we'd class as flagship-level.

The Vernee Apollo is not the first phone to feature the Helio X25 processor (you'll also find handsets from Xiaomi, Meizu, Elephone and LeEco), but it is the first to combine that processor with a 5.5in 2K screen (a high-resolution display is important for VR as the resolution is halved for each eye) and a VR headset in the box.

We say VR headset – it's really just a plastic, buttonless, NFC-less version of the Google Cardboard viewer with a rubber insert that is intended to seal around your face (it was too large to fit our face). It's not Daydream-ready (neither is the Apollo), and the viewer is not especially comfortable in use, though we understand its inclusion given the marketing.

The 2K screen makes the Apollo a better phone for VR than many others, especially MediaTek phones, though calling it the first MediaTek VR phone is possibly a bit of a stretch. No matter, the Apollo has lots more to offer under £250.

Price

The Apollo is available from a number of Chinese outlets, including Coolicool, TomTop and AliExpress, though the one we recommend is GearBest since

you can ship the Apollo from its EU warehouse and therefore avoid any nasty surprises in the form of import duty.

Buying the Apollo from the EU warehouse (£240.50) is a little more expensive than buying it from China (£208.43), but if you opt for the latter choice you should bear in mind that import duty is calculated at 20 percent of whatever value is written on the shipping paperwork, plus there's an admin fee (in our experience this is £11 through DHL). Potentially, if you buy from China you could get an additional fee of up to £52, and in which case the £240 EU option will cost you less overall and come without the added hassle of paying fees.

The Vernee Apollo is sold on a SIM-free basis, which means you can use it with any UK-based mobile operator and on any tariff you like). It's a dual-SIM phone that can accept a Nano- or Micro-SIM, and supports all three UK 4G bands.

The Apollo is a nicely designed phone with a 6000-series aluminium body and, as we've already mentioned, a 2K (or Quad-HD) screen. We tested the grey version, which from the rear has nice clean lines with simplistic antenna bands and a slightly protruding camera with a Smart Touch fingerprint scanner below and dual-LED flash to the side.

The sides are slightly curved and with chamfered edges top and bottom, making this 5.5in-screen phablet easier to hold and manageable in a single hand, especially given its weighty 188g body. This also makes it seem thinner than it is, since at 9.3mm it's actually pretty chunky for a flagship phone with only a 3180mAh battery inside.

At the front you find 2.5D curved glass, which would flow smoothly into the metal frame were it not for the black plastic bezel that is very obvious as you run a finger across the surface. We presume this will add strength to the edges of the screen as you routinely take it in and out the VR viewer, though it does nothing for the aesthetics.

The screen itself is decent, and with a 2560x1440-pixel resolution the sharpest of any Chinese phone we've reviewed. The resulting pixel density of 541ppi is very high, well above that of Retina quality, so you'll find no fuzzy text or graphics here. Of course, the primary reason for the high resolution is VR, since it is halved for each eye. Used with a VR viewer each eye will see a still-sharp 1080p resolution.

This is an LTPS display, which is easy on power consumption with decent brightness. Vernee quotes stats such as 500 nits brightness, 1500:1 contrast and 95 percent NTSC gamut. We found

no reason to complain about the screen, which can be bright enough to use in direct sunlight and dim enough for night-time use. It's also protected with Gorilla Glass 3.

The Vernee Apollo has a USB-C port at the bottom, which can be used for charging, data transfer and audio. Pleasingly there's also a headphone jack at the top, so along with the built-in speaker you have plenty of audio options. A volume rocker and power button are found on the right edge, but rather than a single pin-operated SIM tray on the left there are two. One accepts a single Nano-SIM and the other a Micro-SIM, or you can swap out the Nano-SIM for a microSD card up to 128GB in capacity.

Despite rather a lot of space above and below the screen, which makes the Apollo a rather tall 152mm, the navigation bar is displayed on screen. You can fiddle around with its layout in the Settings menu.

There probably would have been space under the screen to fit the fingerprint scanner, but we like the rear positioning as it falls naturally under the forefinger as you use the phone, and can be used to both wake and unlock the screen at once. It's a decent scanner, recognising your fingerprint in 0.1s and allegedly becoming more accurate over time.

Performance

As we noted in the introduction to this review, the Vernee Apollo is one of few phones to run MediaTek's current best Helio X25 processor, a deca-core chip with eight Cortex-A53 cores and two Cortex-A72 cores, plus an integrated 850MHz

Mali-T880 MP4 GPU. The Helio chip can run at clock speeds of up to 2.5GHz, which is the main difference between it and the slightly slower-clocked Helio X20. Vernee pairs this processor with 4GB of RAM and a generous 64GB of storage.

On its site Vernee compares the core specification of the Apollo with the Xiaomi Mi5s Plus and OnePlus 3T. On paper it sounds impressive: a deca-core processor against their quad-core chips, a higher-resolution screen, a matching amount of memory and storage, and a higher megapixel rating on the primary camera. In fact the deca-core Helio X25 is not a match for the quad-core Snapdragon 821, and the 4GB of RAM is of the slower LPDDR3 rather than LPDDR4 variety (plus the OnePlus 3T has 6GB). Its higher-resolution screen is no doubt a good thing, but actually held it back in our graphics tests. And, as we well know, piling on the megapixels doesn't

always make for a better camera. On the plus side, it is cheaper than those phones.

In real-world use the Vernee Apollo feels fast, with multitasking, gaming and multimedia no issue for it. In our synthetic benchmarks it couldn't compete with the OnePlus 3T, and is in fact a better match or Helio X20/X25 phones such as the Elephone S7, Xiaomi Redmi Note 4, Meizu MX6 and Vernee Apollo Lite.

The battery is on the small side for a 5.5in 2K-screen phablet, rated at just 3180mAh, so don't expect miracles from it – you'll need to charge it every day. It doesn't support wireless charging or, having a MediaTek chip, Qualcomm Quick Charge, but with a compatible adaptor Vcharge allows it to get a 50 percent charge in just 30 minutes.

Connectivity

Usually with Chinese phones you must be careful to ensure they are supported on your home network. Fortunately, the Apollo works with all UK 4G bands, so it's just as good on O2, Giffgaff or Sky Mobile as it is Vodafone, Three and EE. However, if you are buying outside the UK you should check the specs.

The Apollo is a dual-SIM dual-standby phone, which means it can send and receive calls on two separate SIMs. For data you must select one of the two SIMs, although you can change between them in the Settings.

The only thing that's really missing in terms of connectivity is NFC, which is necessary for making mobile payments and can be useful with some VR headsets. You do get dual-band 802.11n Wi-Fi, Bluetooth 4.0, GPS and A-GPS (GLONASS is not specified) and OTG.

Cameras

In a nice change from the countless Chinese phones with 13Mp cameras that pass through *Android Advisor*'s doors, the Vernee Apollo is fitted with a 21Mp, 1/2.4in Sony IMX230. Specs include a dual-tone LED flash, 0.1s phase-detection autofocus, f/2.2 aperture and 4K video recording with videos saved in H.265 format.

We were impressed with the quality of our test shots from the Apollo, shot by default in a 21Mp widescreen format. Although viewed at full-size they show some softness at the extreme edges and are a bit grainy, overall the images are amazingly sharp. And the HDR mode is probably the best we've seen on a phone at this price. It's incredible to think the below two images were shot at the same time, the first in Auto and the second HDR.

The camera app itself offers a number of real-time filters, but shooting modes are limited to Auto, Panorama, HDR and a 40-shot burst mode. You can alter the ISO, white balance, exposure and image properties in the settings.

At the front is an 8Mp selfie camera, which includes the same real-time filters, HDR mode and a Beauty mode.

Software

The Apollo runs a vanilla version of Android Marshmallow, and the company confirms that it will be updated to Nougat, the latest version of the OS. There's a Turbo Download mode (which combines 4G and Wi-Fi for faster downloads), but very little in the way of preinstalled apps. There's a GoVR Player, for example, but no Google apps other than

Auto settings

HDR on

the Google Play store. This means you'll need to download the likes of Gmail, Maps and YouTube yourself if you wish to use them, and a benefit of this is storage isn't wasted if you don't.

You can wake the screen with the fingerprint scanner and alter the layout of the navigation bar, but that's really it. And that's not a bad thing.

Verdict

The Vernee Apollo is a MediaTek flagship, which isn't quite what we expect from Qualcomm Snapdragon flagships, but a very decent phone nonetheless. It's pretty powerful, with a nice screen, a great camera and a relatively untouched Android OS. At less than £250, you can't argue with its value. **Marie Brewis**

Specifications

- 5.5in (2560x1440) 2.5D LTPS display
- Android 6.0 Marshmallow
- 2.5GHz MediaTek Helio X25 deca-core processor
- 850MHz Mali-T880 MP4 GPU
- 4GB LPDDR3 RAM
- 64GB storage
- microSD support up to 128GB
- Dual-SIM, dual-standby
- 4G FDD-LTE Cat 6 800/1800/2100/2600MHz
- Dual-band 802.11a/b/g/n Wi-Fi
- Bluetooth 4.0
- GPS, A-GPS
- OTG
- Fingerprint scanner
- 21Mp, 1/2.4in Sony IMX230 rear camera
- 8Mp selfie camera
- 3.5mm headphone jack
- USB-C
- 3180mAh battery with Vcharge fast charging
- 152x75.6x9.3mm
- 188g

Review: EE Robin

£29 inc VAT • ee.co.uk ★★½☆☆

EE's Robin is a children's tablet with built-in 4G, so they can watch videos and use internet-connected apps wherever they are – without borrowing your phone. This isn't the first version of the Robin, but the upgrades over the first model are pretty minor. It's a 7in tablet that fits into a kid-proof case and comes with child-friendly software.

Price

You might think £29 is a fantastic price for a tablet, but this is only the upfront cost. The main expense is the EE contract, which is £17 per month for two years. This brings the total price up to £437, and that is a lot of money. However, your £17 per month

gives you 2GB of 4G EE data for watching videos and more. If that's not enough, an extra £2.50 per month gives you a whopping 10GB per month.

Design

The tablet itself is built by Alcatel Onetouch and is called the Pixi 3. It has a 7in (1024x600) screen and – like many kids' tablets – uses a relatively poor quality panel with limited viewing angles.

You can buy an Alcatel Onetouch Pixi 3 from many UK retailers for around £75. But even at this price, it's still disappointing to see such old tech, which is beaten by cheaper tablets, including the £49 Amazon Fire. What Amazon's tablet lacks, of course, is a 4G SIM slot which would give it internet access when out of Wi-Fi coverage.

Getting back to the EE Robin, it has a paltry 1.9Mp main camera which takes dismal photos (and videos) and a front camera that seems to be there for games that use it for gesture recognition, because it's useless for selfies.

The processor isn't at all powerful – it can take 30- to 40 seconds to load some games – and while there's nominally 16GB of storage, you actually get 7.7GB of free space to install programs, download videos and music. You can add a microSD card up to 32GB for more storage, though.

There's a standard headphone minijack on the top, so you can attach some kid-friendly headphones and it charges using a standard Micro-USB connector. EE bundles a bumper case that has a folding handle, which doubles as a stand. This is handy when watching videos and playing certain games.

Software

The tablet runs Android 5.1.1 (Lollipop), which is now two whole versions old. It's not a major problem, though, as the interface hasn't changed a lot and virtually all apps are still compatible with this version.

EE has partnered with Kurio and uses its software on the Robin. This means it's exactly the same kids interface as you'll find on Kurio's own Tab 2. While it has decent parental controls, it's far from the best interface. Icons and text are small, and the default view isn't 'all apps', so your children will at first be confused and wonder where the rest of the apps are hiding. Many of the apps in the Kurio selection aren't great for young kids as there's no voice guidance – something you get with Leapfrog tablet apps – and include annoying ads.

But as this is an Android tablet, you're free to install whatever apps and games you like and add

them to your child's profile. You can create several profiles, and each child can choose their avatar and background colour.

A bonus is that along with 4G there's built-in GPS, so you can install and let your kids play Pokémon GO. For some people, this will be the Robin's saving grace.

Verdict

With a poor-quality screen, dismal cameras and woefully underpowered processor, this is a deeply unimpressive tablet, which is barely worth the £29 upfront cost. What you're really paying for here is the data contract, and if you're specifically after a kid-friendly tablet with 4G, this is one of few options available. If you can live with just a Wi-Fi connection, Amazon's £49 Fire is a better tablet, but it can't run Pokémon GO. **Jim Martin**

Specifications

- 7in, 1024x768 pixel LCD screen
- Android 5.1.1 Lollipop
- 1.1GHz quad-core processor
- 16GB internal storage (7.7GB usable)
- microSD slot (up to 32GB)
- Micro-SIM slot
- 2Mp main camera
- 0.3Mp front camera
- GPS
- 802.11b/g/n 2.4GHz Wi-Fi
- Bluetooth
- 2820mAh battery
- 191x109.4x9.25mm
- 257g

Review: RavPower PowerStation Series

£99 inc VAT • ravpower.com/en ★★★★½

You know those portable power banks you carry in a pocket and have just about enough juice to fill up your phone, but then you forget to refill them and they are quickly lost, pinched or forgotten about? This isn't one of those power banks. Not even close.

The RavPower PowerStation Series 20,100mAh Portable Power Outlet sits at the opposite end of the power bank market, and with a £99 asking price it's not for those who simply want their iPhone to last a full working day. Though keeping your iPhone going several days is one of many strings in its bow, the RavPower is totally OTT for that.

Let's start with the obvious: at 146x69x69mm this power bank isn't going to fit in anyone's pocket. RavPower instead supplies a soft mesh case for carrying the power bank and necessary cables, plus a tough zip-up case that can hold it and the required external DC charger. We also found a carabiner clip in the box, which can be attached to the strap on the case.

There are two reasons for its size: first, it is a huge capacity 20,100mAh (74.37Wh) power bank with enough juice

to fill an iPhone 7 six times, a Galaxy S7 4.5 times, or even a 12in MacBook 1.3 times; second, there's lots of clever charging tech inside.

The key difference between this power bank and those that cost a fifth of the RavPower's price is the 65W three-pin AC outlet and 19V/1.6A DC input. It might have a huge capacity, but over the DC input it will charge in just four hours. By comparison a standard power bank of this capacity would take at least 10 hours to refill. Meanwhile, the plug socket on top lets you plug in and power anything from drones and action cameras to printers and laptops, provided they draw less than 65W.

This is the second 65W AC/DC power bank we've reviewed (see our Omnicharge review at tinyurl.com/jL97mk5), but the first to come with a UK three-pin plug. An adaptor is also supplied in the box if you live or will be using the RavPower outside the UK. You can also buy 100W AC/DC power banks, but expect these to cost more.

The AC outlet is an emerging technology for power banks, but currently priced out of many people's budgets. That's a shame, because with it a power bank is able to do a lot more than power a phone, tablet, smartwatch, camera or USB-C laptop. An AC outlet can be used for any type of device with a plug, but when it comes to devices that charge over USB carrying a simple cable is much more appealing than an entire power supply.

For phones, tablets and other USB gadgets there are two USB outputs: one USB-C, which runs at 5V/3A, and one 5V/2.4A iSmart USB output. Slightly disappointing is the fact the two cables supplied in the box are both USB- to Micro-USB and not USB-

to USB-C or USB-C to USB-C. There's no support for Quick Charge but both are fast-charging ports, with the iSmart output able tor recognise the type of device plugged in and deliver only so much power as it requires.

To switch from USB power to the AC outlet you simply press and hold the power button for three seconds to turn it on. This can also be tapped to show how full is the power bank, with five LEDs in a strip around its belly each representing 20 percent, or 4020mAh. In reality it's not quite 4020mAh, because not all of that 20,100mAh is available to your devices. Some energy is always lost through heat and voltage conversion, and the industry-standard efficiency rating is around 65 percent.

We have seen power banks that go as high as 90 percent, such as the aforementioned Omnicharge, but the RavPower is not one of them. This means that despite its lower 13,600mAh capacity, there is very little difference in the usable capacity of the Omnicharge and the RavPower. It also means that with a larger battery the RavPower is a bigger and less easily portable device.

Despite its size, we prefer the RavPower's tall, cylindrical, Red Dot Design award-winning design. The soft-touch rubbery finish and rounded corners make it seem less unwieldy and prone to damage, while the plastic strip running around its middle that holds its LEDs is a nice touch. We also like the fact the AC outlet is covered to prevent dust getting in, and the

inclusion of small vents running around the top and bottom for improved heat dissipation. Plus you get the usual overcharge-, short circuit- and current surge protection built in.

The tough carry case is a very welcome inclusion given the rather bulky power supply, but we don't think you need it for anything other than keeping together the RavPower and its accessories. It has a partly plastic construction, but it feels as tough as any metal power bank. Should you require it the PowerStation comes with an 18-month warranty, with a card in the box (at least with our sample) offering to extend this to 30 months for free.

Verdict

It has a similar usable capacity to the similarly-priced Omnicharge, yet lacks its LCD screen and is much larger and less easily portable. However, this RavPower PowerStation Series 20,100mAh Portable Power Outlet is much easier to get hold of in the UK and even comes with a UK three-pin AC outlet. Both devices are expensive at around £100, but offer insanely fast charging (and recharging) of almost anything you like. **Marie Brewis**

Specifications

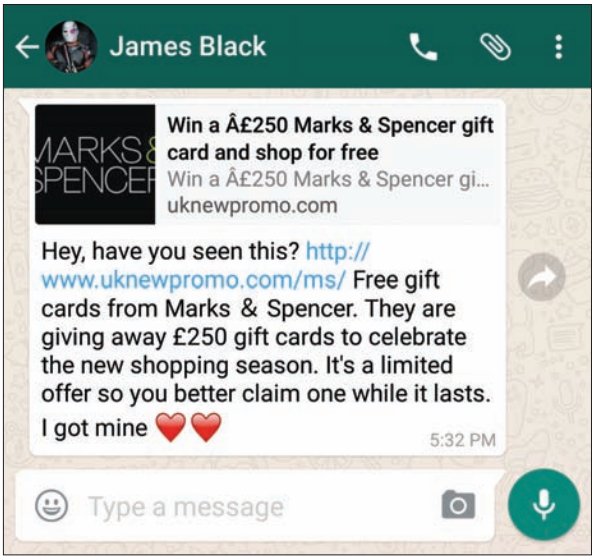
- 20,100mAh (74.37Wh) power bank
- 19V/1.6A DC input (recharges in 4 hours)
- Up to 65W three-pin AC outlet
- USB-C 5V/3A output
- 1x iSmart 5V/2.4A USB output
- Five-LED capacity indicator
- 146x69x69mm
- 207g

COVER STORY

How To: Avoid WhatsApp viruses, scams and hoaxes

Marie Brewis reveals how to stay safe and evade scams

WhatsApp scams used to focus on the idea that you would be charged for the service, but now they offer scam shopping vouchers and dodgy links that download malware. Here are some of the WhatsApp scams you should delete and forget, plus how to avoid WhatsApp viruses, scams and hoaxes.



WhatsApp scam offers free £250 Sainsbury's or M&S voucher

One of the most common WhatsApp scams in January 2017 is one that offers a link with the promise of a free £250 gift card for either Sainsbury's or M&S. The M&S version is pictured here.

By clicking on the link you are taken to a survey page that asks you to answer various personal questions. This survey has absolutely nothing to do with the supermarket, and everything to do with stealing your data. Do not fill in the survey and do not pass on the message.

WhatsApp malware threatens to steal personal information

The most recent WhatsApp scam to come to our attention hopes to trick the user into opening a

legitimate-looking Word, Excel or PDF document attached to a WhatsApp message that will actually download malware to their device that can steal their personal information.

All reports so far originate from India, and apparently use the names of the NDA (National Defence Academy) and NIA (National Investigation Agency) in an attempt to get users to open them, but it won't take much for the scam to make its way to the UK too. Only last month a similar message did the rounds in the UK that tried to persuade users to download a £100 Sainsbury's voucher. In reality, the link simply installed cookies or a browser extension on the user's phone that could be used to serve adverts to them.

The easiest way to avoid this scam is to delete the message, and never to download an unexpected document attachment – whether or not it comes from a trusted contact.

WhatsApp is not ending at 6pm

The latest WhatsApp charging scam to catch our attention goes as follows:

"tomorrow at 6 pm they are ending WhatsApp and you have to pay to open it, this is by law

"This message is to inform all of our users, our servers have recently been very congested, so we are asking you to help us solve this problem. We require our active users to forward this message to each of the people in your contact list to confirm our active users using WhatsApp, if you do not send this message to all your contacts WhatsApp will then start to charge you. Your account will

remain inactive with the consequence of losing all your contacts. Message from Jim Balsamic (CEO of Whatsapp) we have had an over usage of user names on whatsapp Messenger. We are requesting all users to forward this message to their entire contact list. If you do not forward this message, we will take it as your account is invalid and it will be deleted within the next 48 hours. Please DO NOT ignore this message or whatsapp will no longer recognise your activation.

"If you wish to re-activate your account after it has been deleted, a charge of 25.00 will be added to your monthly bill.

"We are also aware of the issue involving the pictures updates not showing. We are working diligently at fixing this problem and it will be up and running as soon as possible. Thank you for your cooperation from the Whatsapp team

"WhatsApp is going to cost us money soon. The only way that it will stay free is if you are a frequent user i.e. you have at least 10 people you are chatting with. To become a frequent user send this message to 10 people who receive it (2 ticks) and your WhatsApp logo should turn blue"

This is absolutely not true, and under no circumstances should you fall for it.

WhatsApp Gold: WhatsApp Premium is a con

The latest hoax doing the rounds is an exclusive invitation to upgrade to a premium version of the app, called WhatsApp Gold. It's complete and utter rubbish: there is no WhatsApp Gold.

"The invitation reads: "Hey Finally Secret Whatsapp golden version has been leaked, This version is used only by big celebrities. Now we can use it too."

It claims to allow you to delete messages after you've sent them, and simultaneously send 100 pictures, among other things. It sounds great, but it's entirely made up. Click on the link in the invitation and you're more likely to end up with a malware infection.

WhatsApp virus: How to avoid WhatsApp virus

The latest WhatsApp scam isn't delivered by WhatsApp itself but through your email app on your Android phone or iPhone. It tells you that you have missed a WhatsApp call or have a WhatsApp voice message, which you should click on the link in the email to access. Rather than your message, you get a virus downloaded to your device. Please don't be fooled. WhatsApp will never contact you outside the WhatsApp app itself, so if you see this then do not click the link and delete the message.

WhatsApp chain message hoaxes: Is WhatsApp closing down?

One WhatsApp hoax that regularly does the rounds is that which asks you to forward the message to 10 people or the service will close down. WhatsApp has millions of users, and it really won't notice you sending 10 messages through the service. It is not about to close down, and this is very much a hoax.

Another variation suggests there are too many WhatsApp users, and it will close your account if you don't start using it. The chain message reads:

"Message from Jim Balsamic (CEO of Whatsapp). We have had an over usage of user names on WhatsApp Messenger. We are requesting all users to forward this message to their entire contact list.

"If you do not forward this message, we will take it as your account is invalid and it will be deleted within the next 48 hours. Please DO NOT ignore this message or WhatsApp will no longer recognise your activation."

If you don't act in time, WhatsApp will apparently charge you £25 to reactivate your account, which will be added to your phone bill. Except it won't, because WhatsApp is now a free service.

WhatsApp chain message hoaxes: Is WhatsApp going to start charging inactive users?

The most popular hoax is one that suggests the service will start charging inactive users a certain amount per message, so by sending the message on to 10 users they can prove they are an active member and loyal, and therefore deserving of its free service. Really? Ask yourself how sending that message you don't pay for to 10 people could possibly keep open the company if it was that desperate for cash? If it were skint, it wouldn't have decided to ditch its subscription fees.

One variation of this message claims to come from the app's founder, 'David D. Suretech'. Never

mind that Brian Acton and Jan Koum are the actual founders of WhatsApp. It reads:

"Hello, I. Am DAVID D. SURETECH founder of Whatsapp. this message is to inform all of our users that we have only 53million accounts available for new phones. Our servers have recently been very congested, so we asking for your help to solve this problem. We need our active users to forward this message to every single person in their contact list in order to confirm our active users that use WhatsApp. If you do not send this message to all your contacts to WhatsApp, then your account will remain inactive with the consequence of losing all your contacts.

"The automatic update symbol on your SmartPhone Will appear with the transmission of this message. Your smartphone will be updated within 24 hours, and will feature a new design; a new color for the chat and the icon will change from green to azul. Whatsapp will begin to charge unless you are a frequent user. If you have at least 10 contacts send this sms and the logo will become red on your platform to indicate that you are an active user. Tomorrow, we wil begin to take messages for whatsapp for 0.37 cents. Forward this message to more than 9 people in your contact list and the what's app logo on your will turn blue meaning that you have Become a free user for life."

WhatsApp's response to all such scams is as follows: "Please understand that this is a hoax and there is no truth to it."

How To: Get more storage in Android

Marie Brewis explains how to free up some space

The more our phones and tablets are able to do the more we do with them, whether that's taking high-resolution photos and video, playing intensive games or just downloading apps for everything from Pokémon Go to BBC iPlayer. It's easy to run low on storage in Android, even with a phone that comes with 16- or 32GB as standard. Here are some tips for how to free up space on Android, plus some advice on ways you can get more storage in Android.

Free up space

Back up photos and video to Google Photos, then delete them from your phone

Photos and video are one of the biggest space hogs on any Android phone, and more so as their integrated cameras come with increasingly high megapixel counts.

Download the free Google Photos app from Google Play, then in the Settings menu select to back up all photos and video over Wi-Fi. Once the media has transferred you can delete them from your phone (though be careful to delete them from the Gallery app rather than Google Photos itself).

Move other files to Google Drive

In a similar fashion to moving your photos and video to Google Photos, you can use Google Drive or any other free cloud-storage app to store other files. Both steps are worth taking even if you aren't running low on storage, since they will mean you won't lose your media should you break or lose your device. The only down side is you'll need an active internet connection to view your files.

Delete any old apps and games you don't use

Some apps and games consume a surprising amount of storage, and if you don't use them they don't need to be gobbling up any space on your phone. If you later decide you need them then just download them again – any apps you've paid for at Google Play will be available to any Android device on which you're logged into your Google account.

It's easy to miss some when you're looking at shortcuts on the home screen or multiple slides

in the app tray. Instead, open Google Play, tap the three lines at the top left to open the Settings menu, then choose My apps & games. The Installed tab will show you every app on your phone or tablet (except those installed outside Google Play). To remove any simply select the app and choose Uninstall.

Clear out your cached files

Cached files are bits of data stored by apps every time you use them. Over time you can collect an alarming amount of cached data, so if you're looking for a way to save some space, clear out these old files. Open the Settings menu and select Storage, then scroll down to and tap on Cached data. Select OK to clear cached data for all apps.

Delete old downloads

Every time you download a PDF or other document from the web it is stored in your Downloads folder, but the chances are you probably don't need it anymore. If you have a File Manager app use this to browse your Downloads folder and delete anything you don't need; alternatively, you may have a Downloads shortcut in your app tray.

Move files to a microSD card

If your phone supports microSD, you can use this medium for storing photos, video and other files currently on your phone. Depending on your phone and its operating system you may not be able to save apps to the microSD card, though you may be able to format the card as internal- rather than portable storage.

Get more storage

Add a microSD card, even if your device doesn't support one

If your phone or tablet supports microSD then great, go ahead and buy one. Be sure to check how much capacity it can accept – you don't want to pay out for a 128GB card only to find it supports only 32GB.

If your phone or tablet doesn't natively support microSD, it's easy to attach one to make use of on an ad-hoc basis using a microSD card reader, which connects to your phone's Micro-USB port, or a wireless version such as the Verbatim MediaShare Wireless Mini, which is available for £18.49 from Amazon UK. It looks like a USB flash drive – and, indeed, can be inserted into your PC's USB port where it will act as such, allowing you to drag and drop files on to it – but inside is a microSD card, which supports the transfer of files but also content streaming.

By downloading the Verbatim MediaShare Wireless Mini app (free from Google Play or the App Store), you can connect it to your Android phone or tablet over Wi-Fi to access the contents

Verbatim Wireless Mini

of the microSD card. The great thing about using the wireless connection on the Verbatim is that up to five people can share that connection, and you can password-protect access to the drive. An internal battery lasts for up to three hours and is recharged over the USB connection.

Plug in a flash drive on OTG-enabled Android devices

You might not realise it, but the majority of Android phones and tablets support USB OTG (On The Go), which allows you to plug in peripherals such as storage drives, just as you would with a PC. Whether or not a device supports OTG won't always be listed in its spec. A quick and easy way to check whether your device supports OTG is to download to it the USB OTG Checker app, free from Google Play.

Once you've established that your device supports OTG you simply need an OTG adaptor, which cost very little over at Amazon. Note that you may need to power the drive from an external source while it is plugged into the phone. For more information see How to add microSD support to your Android phone or tablet.

Get a wireless hard drive

One final option you have for getting access to more storage on your Android device is by using a wireless hard drive. A wireless hard drive is exactly the same as a normal portable hard drive, but you connect to it via Wi-Fi. Loads of options are available, and they're becoming more affordable, too.

How To: Use Google Trusted Contacts

Martyn Casserly shows how to keep track of friends online

Google has introduced a new app that allows you to give permission for select family members and friends to track your location. The idea behind Trusted Contacts is that someone knows where you are in case anything goes wrong, and it could be a very important way to stay safe. The app is free, easy to set up, and we'll show you how in this quick tutorial.

What is Trusted Contacts?

Trusted Contacts is a way to share your location and status with a few close friends so they can

make sure you're safe. Once you grant them permission they can see if you've recently used your phone, moved location, as well as the general status of your smartphone battery. The intention isn't to turn your friends into stalkers, but instead give the reassurance that someone is looking out for you.

It makes the most sense in the context of say a late night when you might be walking home by yourself. If you wanted you could turn on the tracking feature and send friends a message so they can know where you are.

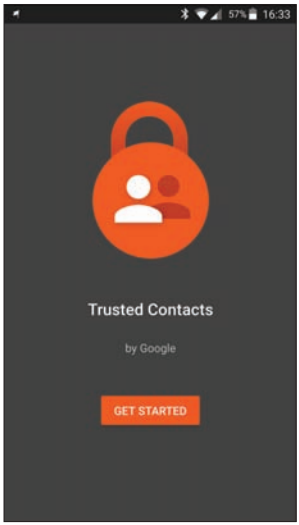
Trusted Contacts would also be very useful if you've gone somewhere unfamiliar - perhaps a trek into the wilds - where there wouldn't be people around to help if you got into difficulties. The advantages of this style of app will also appeal to parents wanting to keep an eye on their children as they venture out into the world. The app is similar to Find my Friends on iOS or Android Device Manager, but with a few extra features.

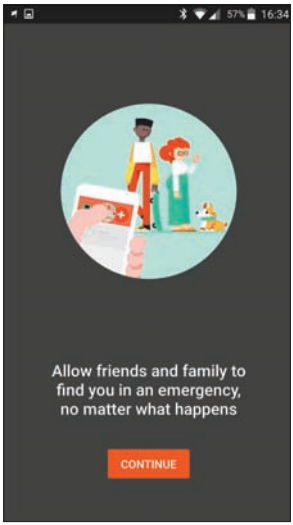
Perhaps the most important safety feature is that if friends are concerned that you might be in any kind of trouble they can request your location. The app then gives you five minutes to deny the request, but if it doesn't receive a command it will automatically provides the details.

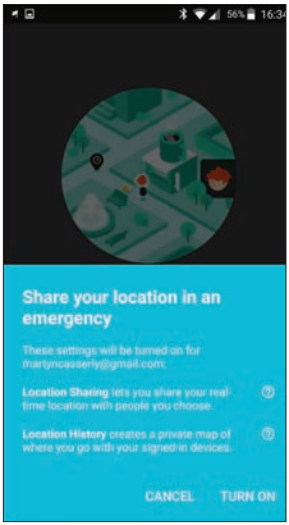
Settings can be changed at any time, and the user always retains control over who can track them and who can't.

Setting up Trusted Contacts

Download the app from the Google Play Store. After launching it for the first time you'll see a series





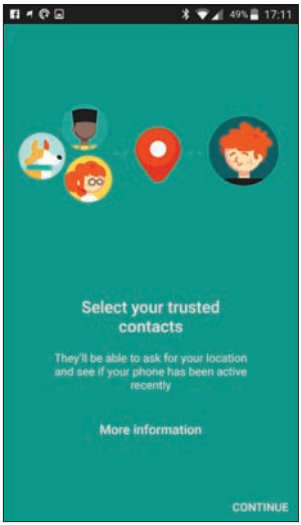


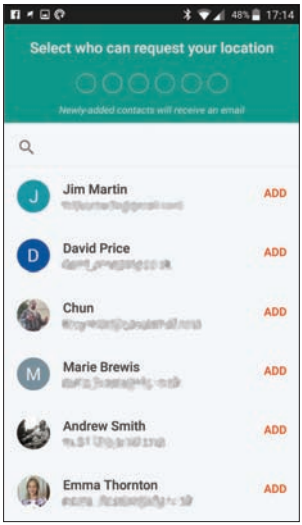
of pretty animated screens that take you through the various feature of the app.

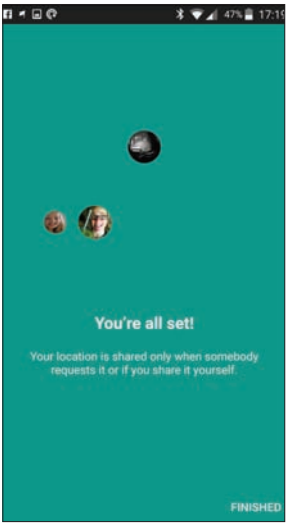
This is a tracking app and will need your location to be able to work properly, so grant this permission when prompted. Google states that the data is kept private in the app and shows your current location along with a map of your recent activities.

As the name suggests, you'll need to select which people you trust with your location. To do this allow the app access to your Contacts, then choose the ones you want by tapping on the Add button on the right side of the screen. The people you choose don't have to have Trusted Contacts installed on their phones, or even a Google account, although they will need one if they want to request your location.

With the contacts selected you're good to go. Now your friends will receive an email letting





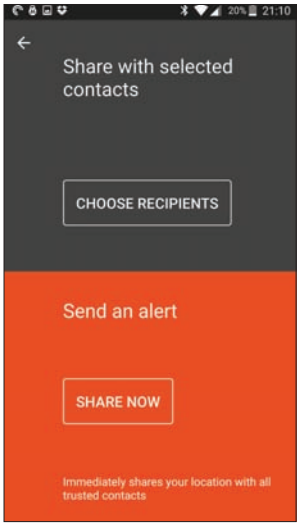


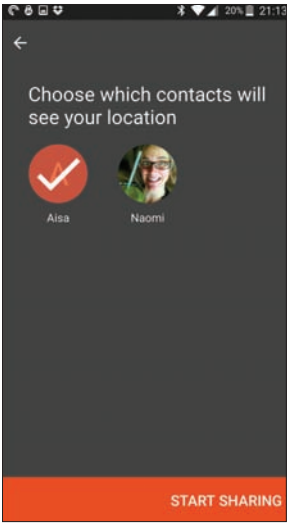
them know that they are able to access your location and status either through a browser interface or the free Trusted Contacts app.

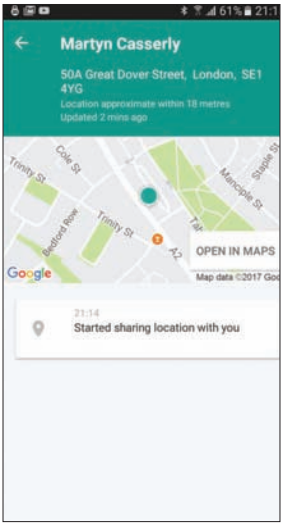
Using Trusted Contacts

Once you've got your list of trusted friends up and running you can start using the app. The Home page shows a list of the friends you have added, beneath which will either be a status or a message letting you know that they haven't added you back yet. If friends download the Trusted Contacts app and add you then they will see several possible status updates, each with different meanings.

Active recently: The phone has been used or moved within the last 30 minutes
Activity in the last hour: As above but for an hour
Low battery, battery dead or offline: Again, pretty self-explanatory.







If you want to let people know where you are then just tap the orange circle in the top right corner that has a location icon inside. This opens up a new window with two choices: share with selected contacts or Send alert. The first simply lets people know where you are and allows them to see your location history for the next 24 hours, or until you turn off the Sharing option.

Each trusted contact you select receives an email letting them know you've shared your location, and they can access the information either by tapping the View Updates in the app, or by viewing the same information via the browser link included in the email.

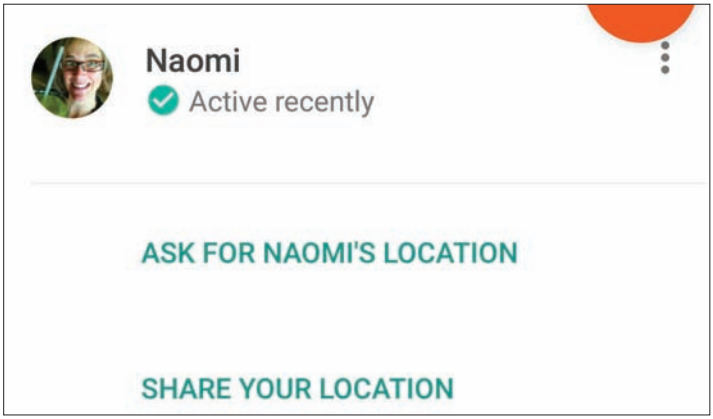
The second is an urgent message that tells people you need immediate help. It doesn't waste time asking who to choose, instead it just sends the alert to all trusted contacts on your list. Those with the app installed will hear their alarm

tone begin to play and see your location. Friends choosing the browser option will receive an email telling them you need assistance and providing a link to your location.

If you're worried about someone and want to see where they are then go to the Home screen, tap on a contact, and select the 'Ask for XXX's location'.

The app will then ask the other person to confirm they want to share it with you. If they don't respond within five minutes you'll automatically receive the map details of their location. You can do the same thing via the web if you open the original email you received from the person and press the Request location button.

Trusted Contacts is a simple app. It doesn't come loaded with features or options, but that's one of the best things about it. You just find the information you want quickly so that you know when to stop worrying or start helping. Download it today, and get your friends to do the same. You never know when something like this could be just what you need.



How To: Get started with Twitter live video

Twitter has introduced the ability to stream video live onto the social media site. **Martyn Casserly** explains how

While most people associate Twitter with short status updates, hashtags, or the inane ramblings of certain US Presidents, the company recently announced a new feature that goes beyond the 140-character limit - live video. Now you can broadcast your thoughts, surroundings, and highly questionable environmental policies to the world, all from your

iPhone or Android smartphone without typing a word. We take a quick look at the new service and how to use Twitter live video.

What is Twitter live video?

Much like its close rival Facebook Live, Twitter live video lets users quickly livestream events directly to the social media site. Other users can interact with the feed in real time, leaving comments and likes, and once the video is complete it remains in your feed just like any other tweet.

But wait a minute, we hear you say, isn't this just Periscope? Well, yes and no. The new service is powered by Periscope, a livestreaming app that Twitter released last year. But you don't need a Periscope account as your Twitter one is automatically used instead, and everything is done in the Twitter app. However, if you want a few extra features – such as the ability to alter your settings – then you can create an account for free by downloading the Periscope app for iOS or Android.

Creating a live video

To get your live stream up and running open the Twitter app on your phone, then create a new post.

The next page has the famous 'What's happening?' message in the main area of the screen, but it's the options at the bottom that you'll want to pay attention to. You should see a video camera icon with an inverted teardrop shape inside it and the word 'Live' below. Tap this and you will receive a few queries about allowing access to your camera or audio. Grant these and you'll see a message confirming that you can

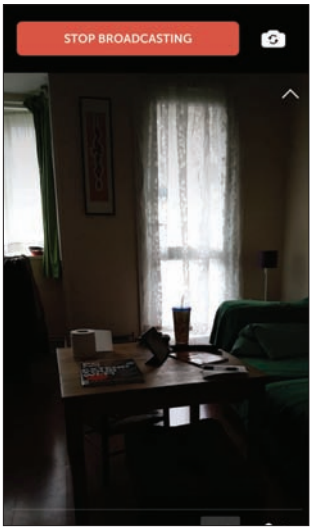
now go Live on Twitter. Tap the 'OK, got it' button and Twitter will launch your camera.

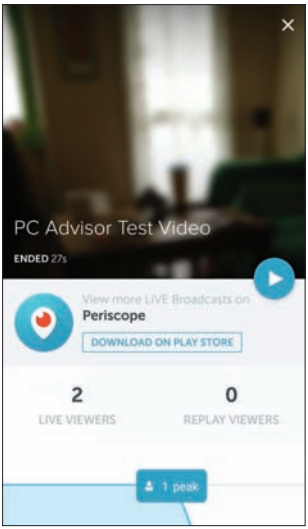
Before you go live you'll want to give your video a name so that viewers can find it. Tap the 'What's happening?' area, create a suitable title, then tap Go Live to begin.

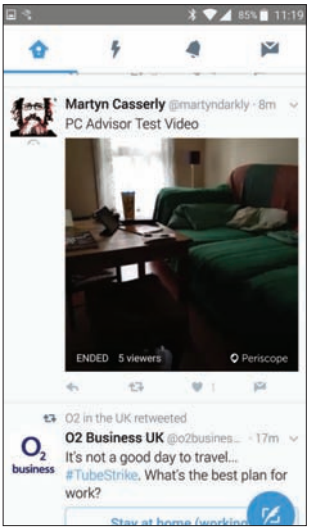
Now you're live on Twitter. Any viewers that come across your stream will be able to watch what you're up to and say hello.

When you're finished just scroll down from the top and tap 'Stop Broadcasting'. You'll then be given the options to save the video to your gallery or delete it. There are also details on who watched the video when it was live or as a replay on your stream.

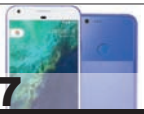
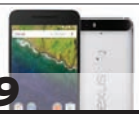
So there you go, your journey as a broadcast legend is underway. Just remember that with great power comes great responsibility, and the challenge of being constantly interesting.



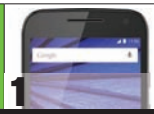




Best smartphones	 1	 2	 3	 4	 5
	Samsung Galaxy S7 edge	**Samsung Galaxy S7**	**LG G5**	**Apple iPhone 7**	**OnePlus 3T**
Price	**£639 inc VAT**	**£569 inc VAT**	**£529 inc VAT**	**£599 inc VAT**	**£399 inc VAT**
Website	Samsung.com/uk	Samsung.com/uk	LG.com/uk	Apple.com/uk	Oneplus.net
Build rating	★★★★½	★★★★½	★★★★☆	★★★★½	★★★★½
Features rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★½
Value rating	★★★★☆	★★★★½	★★★★½	★★★½☆	★★★★½
Performance rating	★★★★★	★★★★★	★★★★½	★★★★½	★★★★½
Overall rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★½
OS (out of box)	Android 6.0 Marshmallow	Android 6.0 Marshmallow	Android 6.0 Marshmallow	iOS 10	Android 6.0.1 Marshmallow
Processor	Qualcomm Snapdragon 820	Qualcomm Snapdragon 820	Qualcomm Snapdragon 820	A10 Fusion	Qualcomm Snapdragon 821
RAM	4GB	4GB	4GB	2GB	6GB
Storage	32GB	32GB	32GB	32/128/256GB	64/128GB
MicroSD support	✓	✓	✓	×	×
Graphics	Adreno 530	Adreno 530	Adreno 530	Not stated	Adreno 530
Screen size	5.5in	5.1in	5.3in	4.7in	5.5in
Screen resolution	2560x1440	2560x1440	2560x1440	1334x720	1920x1080
Pixel density	534ppi	577ppi	554ppi	326ppi	401ppi
Screen technology	IPS	IPS	IPS	IPS	AMOLED
Front camera	5Mp	5Mp	8Mp	7Mp	16Mp
Rear camera	16Mp, LED flash	12Mp, LED flash	8/16Mp, LED flash	12Mp, LED flash	16Mp, 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 4.0 (multi)	6469 (Geekbench 3.0)	6466 (Geekbench 3.0)	5404 (Geekbench 3.0)	6088	4257
JetStream	66.1	61	53.5	160.2	53.6
GFXBench: T-Rex	53fps	53fps	53fps	60fps	60fps
GFXBench: Manhattan	27fps	27fps	29fps	60fps	47fps
Battery	3600mAh, non-removable	3000mAh, non-removable	2800mAh, removable	Lithium-ion	3400mAh, non-removable
Dimensions	151x73x7.8mm	142x70x7.9mm	149x74x7.7mm	138.3x67.1x7.1mm	152.7x74.7x7.4mm
Weight	157g	152g	159g	138g	158g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/ZDKDRE4	TINYURL.COM/J5CQ9OU	TINYURL.COM/JES3ZUD	TINYURL.COM/JKDLR6H	TINYURL.COM/GM92C55

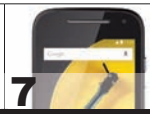
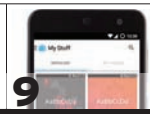
Best smartphones	 6	 7	 8	 9	 10
	Xiaomi Mi 5s	**Google Pixel**	**Apple iPhone 7 Plus**	**Google Nexus 6P**	**HTC 10**
Price	**£282 inc VAT**	**£599 inc VAT**	**£719 inc VAT**	**£449 inc VAT**	**£569 inc VAT**
Website	Xiaomi-mi.co.uk	Google.co.uk	Apple.com/uk	Google.co.uk	Htc.com/uk
Build rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★☆
Features rating	★★★★½	★★★★☆	★★★★½	★★★★½	★★★★☆
Value rating	★★★★★	★★★½☆	★★★½☆	★★★★½	★★★★☆
Performance rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★☆
Overall rating	★★★★½	★★★★☆	★★★★☆	★★★★½	★★★★☆
OS (out of box)	Android 6.0 Marshmallow	Android 7.1 Nougat	iOS 10	Android 6.0 Marshmallow	Android 6.0 Marshmallow
Processor	Qualcomm Snapdragon 821	Qualcomm Snapdragon 821	Apple A10 Fusion	Qualcomm Snapdragon 810	Qualcomm Snapdragon 820
RAM	3/4GB	4GB	3GB	3GB	4GB
Storage	64/128GB	32/128GB	32/128/256GB	32/64/128GB	32GB
MicroSD support	×	×	×	×	✓
Graphics	Adreno 530	Adreno 530	PowerVR Series7XT Plus	Adreno 430	Adreno 530
Screen size	5.15in	5in	5.5in	5.7in	5.2in
Screen resolution	1920x1080	1920x1080	1920x1080	2560x1440	2560x1440
Pixel density	428ppi	441ppi	401ppi	518ppi	565ppi
Screen technology	IPS	AMOLED	IPS	AMOLED	Super LCD
Front camera	4Mp	8Mp	7Mp	8Mp	5Mp
Rear camera	12Mp, LED flash	12.3Mp, LED flash	12Mp, 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	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	A-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 4.0 (multi)	4157	4116	6106	3939 (Geekbench 3.0)	5132 (Geekbench 3.0)
JetStream	57.4	54.9	168.7	Not tested	44.1
GFXBench: T-Rex	59fps	58fps	58fps	34fps	52fps
GFXBench: Manhattan	43fps	47fps	44fps	14fps	27fps
Battery	3200mAh, non-removable	2770mAh, non-removable	2900mAh, non-removable	3450mAh, non-removable	3000mAh, non-removable
Dimensions	145.6x70.3x8.3mm	143.8x69.5x8.5mm	158.2x77.9x7.3mm	159.3x77.8x7.3mm	145.9x71.9x9mm
Weight	145g	143g	188g	178g	161g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/H6X5M3Z	TINYURL.COM/J4V6WVC	TINYURL.COM/ZSKOF5P	TINYURL.COM/NABSV4E	TINYURL.COM/HPEW53R

Best budget smartphones

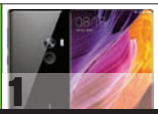
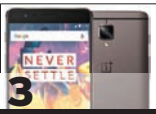


	Motorola Moto G (3rd gen)	Vodafone Smart Ultra 6	Vodafone Smart Prime 7	Vodafone Smart Prime 6	Xiaomi Redmi 3S
Price	£149 inc VAT	£125 inc VAT	£75 inc VAT	£79 inc VAT	£121 inc VAT
Website	Motorola.co.uk	Vodafone.co.uk	Vodafone.co.uk	Vodafone.co.uk	Xiaomi-mi.co.uk
Build rating	★★★★☆	★★★★½	★★★★½	★★★★½	★★★★☆
Features rating	★★★★½	★★★★½	★★★★☆	★★★★☆	★★★★☆
Value rating	★★★★☆	★★★★★	★★★★½	★★★★☆	★★★★☆
Performance rating	★★★★½	★★★★½	★★★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	MIUI 7.5
Processor	1.4GHz Snapdragon 410	2.5GHz Snapdragon 615	1.2GHz Snapdragon 210	1.2GHz Snapdragon 410	1.4GHz Snapdragon 4130
RAM	2GB	2GB	1GB	1GB	2GB
Storage	16GB	16GB	8GB	8GB	16GB
MicroSD support	Up to 32GB	Up to 128GB	Up to 128GB	Up to 64GB	Up to 128GB
Graphics	Adreno 406	Adreno 405	Adreno 304	Adreno 306	Adreno 505
Screen size	5in	5.5in	5in	5in	5in
Screen resolution	1280x720	1920x1080	1280x720	1280x720	1280x720
Pixel density	294ppi	401ppi	294ppi	294ppi	294ppi
Screen technology	IPS	IPS	IPS	IPS	IPS
Front camera	5Mp	5Mp	5Mp	2Mp	5Mp
Rear camera	13Mp	13Mp	8Mp	8Mp	13Mp
Video recording	720p	1080p	720p	1080p	1080p
Cellular connectivity	4G	4G*	4G*	4G*	4G
SIM type	Micro-SIM	Nano-SIM	Micro-SIM	Micro-SIM	1x Micro-SIM, 1x Nano-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 4.1
GPS	GPS, A-GPS, GLONASS	GPS, A-GPS	A-GPS	A-GPS	GPS, A-GPS
NFC	×	✓	✓	×	×
USB OTG	×	×	×	✓	×
Extra features	FM radio, accelerometer	FM radio	FM radio	FM radio	Rear-mounted fingerprint scanner
Geekbench 3.0 (single)	Not tested	649	Not tested	464	Not tested
Geekbench 3.0 (multi)	1628	2469	1098	1401	2848
SunSpider	1344ms	1545ms	Not tested	1301ms	Not tested
GFXBench: T-Rex	10fps	14fps	10fps	9.4fps	24fps
GFXBench: Manhattan	4fps	5.7fps	4fps	3.8fps	13fps
Battery	2470mAh, non-removable	3000mAh, non-removable	2540mAh, non-removable	Not specified	4100mAh, non-removable
Dimensions	142.1x72.4x11.6mm	154x77x9mm	144x72x8mm	141.65x71.89x9mm	139.3x69.6x8.5mm
Weight	155g	159g	128g	155g	144g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/HTEFW7H	TINYURL.COM/Q7Q9NXR	TINYURL.COM/ZTLQLUZ	TINYURL.COM/Q5DSNHE	TINYURL.COM/J8HXZ49

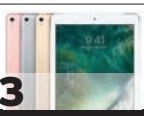
* Locked to Vodafone. All other models here are unlocked

Best budget smartphones	 6	 7	 8	 9	 10
	Vodafone Smart Ultra 7	Motorola Moto E 4G 2015	Cubot P12	Wileyfox Swift	Xiaomi Redmi Note 3
Price	£135 inc VAT	£109 inc VAT	£74 inc VAT	£129 inc VAT	£118 inc VAT
Website	Vodafone.co.uk	Motorola.co.uk	Cubot.net	Wileyfox.com	Xiaomi-mi.com
Build rating	★★★☆☆	★★★★☆	★★★★½	★★★★☆	★★★★½
Features rating	★★★☆☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Value rating	★★★☆☆	★★★★☆	★★★★★	★★★★½	★★★★½
Performance rating	★★★½☆	★★★★★	★★★½☆	★★★½☆	★★★★½
Overall rating	★★★☆☆	★★★★☆	★★★★☆	★★★★☆	★★★★½
OS (out of box)	Android 6.0.1 Marshmallow	Android 5.0 Lollipop	Android 5.1 Lollipop	Cyanogen OS	Android 5.0 Lollipop
Processor	1.8GHz Mediatek MT6755M	1.2GHz Snapdragon 410	1.3GHz MediaTek MT6580	1.2GHz Snapdragon 410	2GHz MediaTek MT6795
RAM	2GB	1GB	1GB	2GB	2GB
Storage	16GB	8GB	16GB	16GB	16GB
MicroSD support	Up to 256GB	Up to 32GB	Up to 32GB	Up to 32GB	No
Graphics	Mali-T860MP2	Adreno 306	Mali 400mp	Adreno 306	Not specified
Screen size	5.5in	4.5in	5in	5in	5.5in
Screen resolution	1920x1080	960x540	1280x720	1280x720	1920x1080
Pixel density	401ppi	245ppi	294ppi	294ppi	403ppi
Screen technology	IPS	IPS	IPS	IPS	Full HD
Front camera	5Mp	0.3Mp	5Mp	5Mp	5Mp
Rear camera	13Mp	5Mp	8Mp, LED flash	13Mp, LED flash	13Mp, LED flash
Video recording	1080p	720p	1080p	1080p	Not specified
Cellular connectivity	4G*	4G	3G	4G	4G
SIM type	Micro-SIM	Micro-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	802.11ac
Bluetooth	Bluetooth 4.1	Bluetooth 4.0	×	Bluetooth 4.0	Bluetooth 4.0
GPS	GPS, A-GPS	GPS, A-GPS, Glonass	GPS, A-GPS	A-GPS	GPS, A-GPS, Glonass
NFC	×	×	×	×	✓
USB OTG	×	×	✓	✓	×
Extra features	FM radio, accelerometer	Double-twist launches camera, lockscreen alerts	Gesture controls	3D G-Sensor	Fingerprint scanner
Geekbench 3.0 (single)	Not tested	464	Not tested	Not tested	Not tested
Geekbench 3.0 (multi)	3002	1463	1401	1456	4597
SunSpider	Not tested	1301ms	1726ms	1760ms	907ms
GFXBench: T-Rex	13fps	13fps	13fps	10fps	122fps
GFXBench: Manhattan	5.3fps	6fps	6fps	4fps	8fps
Battery	2960mAh, non-removable	2390mAh, non-removable	2200mmAh, removable	2500mAh, removable	4000mAh, non-removable
Dimensions	152.2x78.1x8.7mm	66.8x5.2-12.3x129.9mm	141x71x9.4mm	141x71x9.4mm	150x76x8.65mm
Weight	150g	145g	71.5x8.1x143.9mm	135g	164g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/ZL3X7QG	TINYURL.COM/Q7Q9NXR	TINYURL.COM/JVEOZSF	TINYURL.COM/PO9KG38	TINYURL.COM/JQNP2RB

* Locked to Vodafone. All other models here are unlocked

Best phablets	 1	 2	 3	 4	 5
	Xiaomi Mi Mix	**Samsung Galaxy S7 edge**	**OnePlus 3T**	**Google Nexus 6P**	**Apple iPhone 7 Plus**
Price	**£639 inc VAT**	**£639 inc VAT**	**£399 inc VAT**	**£449 inc VAT**	**£719 inc VAT**
Website	Xiaomi-mi.co.uk	Samsung.com/uk	Oneplus.net	Google.co.uk	Apple.com/uk
Build rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★½
Features rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★½
Value rating	★★★★½	★★★★☆	★★★★½	★★★★½	★★★½☆
Performance rating	★★★★½	★★★★★	★★★★½	★★★★☆	★★★★½
Overall rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★☆
OS (out of box)	Android 6.0 Marshmallow	Android 6.0 Marshmallow	Android 6.0.1 Marshmallow	Android 6.0 Marshmallow	iOS 10
Processor	Qualcomm Snapdragon 821	Qualcomm Snapdragon 820	Qualcomm Snapdragon 821	Qualcomm Snapdragon 810	Apple A10 Fusion
RAM	4/6GB	4GB	6GB	3GB	3GB
Storage	128/256GB	32GB	64/128GB	32/64/128GB	32/128/256GB
MicroSD support	×	✓	×	×	×
Graphics	Adreno 530	Adreno 530	Adreno 530	Adreno 430	PowerVR Series7XT Plus
Screen size	6.4in	5.5in	5.5in	5.7in	5.5in
Screen resolution	2040x1080	2560x1440	1920x1080	2560x1440	1920x1080
Pixel density	326ppi	534ppi	401ppi	518ppi	401ppi
Screen technology	IPS	IPS	AMOLED	Quad HD capacitive	IPS
Front camera	5Mp	5Mp	16Mp	8Mp	7Mp
Rear camera	16Mp, LED flash	16Mp, LED flash	16Mp, LED flash	12.3Mp, LED flash	12Mp, LED flash
Video recording	2160p	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	GPS, Glonass	A-GPS, Glonass	A-GPS, Glonass	A-GPS
NFC	✓	✓	✓	✓	✓
USB OTG	✓	✓	✓	✓	✓
Extra features	Fingerprint scanner	Fingerprint scanner	Fingerprint scanner	Fingerprint scanner	Fingerprint scanner
Geekbench 3.0 (single)	Note tested	6469	Not tested	Not tested	Note tested
Geekbench 3.0 (multi)	4301 (Geekbench 4.0)	Not tested	4257 (Geekbench 4.0)	3939	6106 (Geekbench 4.0)
SunSpider	Note tested	53fps	Not tested	636ms	Not tested
GFXBench: T-Rex	60fps	27fps	60fps	34fps	58fps
GFXBench: Manhattan	46fps	27fps	47fps	14fps	44fps
Battery	4400mAh, non-removable	3600mAh, non-removable	3400mAh, non-removable	3450mAh, non-removable	2900mAh, nin-removable
Dimensions	158.8x81.9x7.9mm	151x73x7.8mm	152.7x74.7x7.4mm	159.3x77.8x7.3mm	158.2x77.9x7.3mm
Weight	209g	157g	158g	178g	188g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/ZC5LMDC	TINYURL.COM/ZDKDRE4	TINYURL.COM/GM92C55	TINYURL.COM/NABSV4E	TINYURL.COM/ZSKOF5P

Best phablets	 6	 7	 8	 9	 10
	Xiaomi Mi Note 2	**Samsung Galaxy Note5**	**Apple iPhone 6s Plus**	**Google Pixel XL**	**Huawei P9 Plus**
Price	**£472 inc VAT**	**£499 inc VAT**	**£619 inc VAT**	**£719 inc VAT**	**£629 inc VAT**
Website	Xiaomi-mi.co.uk	Samsung.com/uk	Apple.com/uk	Google.co.uk	Consumer.huawei.com/uk
Build rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★½
Features rating	★★★★☆	★★★★☆	★★★★½	★★★★☆	★★★½☆
Value rating	★★★★½	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Performance rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★☆
Overall rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★☆
OS (out of box)	Android 7.1 Nougat	Android 5.1.1 Lollipop	iOS 9	Android 7.1 Nougat	Android 6.0 Marshmallow
Processor	Qualcomm Snapdragon 821	2.1GHz Exynos 7420	A9	Qualcomm Snapdragon 821	HiSilicon Kirin 955
RAM	4/6GB	4GB	2GB	4GB	4GB
Storage	64/128GB	32/64GB	16/64/128GB	32/128GB	64GB
MicroSD support	×	×	×	×	Up to 256GB
Graphics	Adreno 530	Mali-T760MP8	M9	Adreno 530	Mali-T880 MP4
Screen size	5.7in	5.7in	5.5in	5.5in	5.5in
Screen resolution	1920x1080	1280x720	1920x1080	2560x1440	1920x1080
Pixel density	386ppi	518ppi	401ppi	534ppi	401ppi
Screen technology	AMOLED	Super AMOLED	IPS	IPS	AMOLED
Front camera	8Mp	5Mp	5Mp	8Mp	8Mp
Rear camera	22.5Mp, LED flash	16Mp, LED flash	12Mp, LED flash	12.3Mp, LED flash	12Mp, LED flash
Video recording	2160p	4K	4K	2160p	1080p
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, Glonass	GPS, Glonass	A-GPS, Glonass
NFC	✓	✓	✓	✓	✓
USB OTG	✓	✓	✓	✓	✓
Extra features	Fingerprint scanner	Heart-rate sensor, fingerprint scanner	Fingerprint scanner	Fingerprint scanner	Fingerprint scanner
Geekbench 3.0 (single)	1663 (Geekbench 4.0)	1497	2527	1581 (Geekbench 4.0)	Not tested
Geekbench 3.0 (multi)	4137 (Geekbench 4.0)	Not tested	4407	4067 (Geekbench 4.0)	6682
SunSpider	Not tested	718ms	210ms	Not tested	Not tested
GFXBench: T-Rex	Not tested	37fps	59fps	55fps	44fps
GFXBench: Manhattan	31fps	15fps	38fps	30fps	20fps
Battery	4070mAh, non-removable	2300mAh, non-removable	Lithium-ion	3450mAh, non-removable	3400mAh, non-removable
Dimensions	156.2x77.3x7.6mm	153.2x76.1x7.6mm	158.2x77.9x7.3mm	154.7x75.7x8.5mm	152.3x75.3x7mm
Weight	166g	171g	192g	168g	162g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/GSOBSEE	TINYURL.COM/OCQAJPL	TINYURL.COM/OYRA5MX	TINYURL.COM/HBXFGXX	TINYURL.COM/ZABGKKC

Best tablets	 1	 2	 3	 4	 5
	Apple iPad Air 2	Samsung Galaxy Tab S2 8	9.7in Apple iPad Pro	Apple iPad mini 4	Sony Xperia Z3 Tablet Compact
Price	£399 inc VAT	£319 inc VAT	£499 inc VAT	£319 inc VAT	£299 inc VAT
Website	Apple.com/uk	Samsung.com/uk	Apple.com/uk	Apple.com/uk	Sony.co.uk
Build rating	★★★★★	★★★★½	★★★★½	★★★★½	★★★★☆
Features rating	★★★★½	★★★★☆	★★★★½	★★★★☆	★★★★½
Performance rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★½
Value rating	★★★★☆	★★★★☆	★★★½☆	★★★½☆	★★★★☆
Overall rating	★★★★½	★★★★☆	★★★★½	★★★★☆	★★★★½
OS (out of box)	iOS 10	Android 5.0 Lollipop	iOS 10	iOS 10	Android 4.4 KitKat
Processor	Apple A8X, Apple M8	1.9GHz Exynos 5433	Apple A9X, Apple M9	Apple A8, Apple M8	2.5GHz Snapdragon 801
RAM	2GB	3GB	3GB	2GB	3GB
Storage	16/64/128GB	32GB/64GB	32GB/128GB/256GB	16GB/64/128GB	16GB/32GB
MicroSD support	×	Up to 128GB	×	×	Up to 128GB
Graphics	Apple A8X	Not specified	Apple A9X	Apple A8	Adreno 330
Screen size	9.7in	8in	9.7in	7.9in	8in
Screen resolution	2048x1536	2048x1536	2048x1536	2048x1536	1920x1200
Pixel density	264ppi	320ppi	264ppi	326ppi	283ppi
Screen technology	IPS	Super AMOLED	IPS	IPS	IPS
Front camera	1.2Mp	2.1Mp	8Mp	1.2Mp	2.2Mp
Rear camera	8Mp	8Mp	12Mp, LED flash	8Mp	8.1Mp
Video recording	1080p	QHD	1080p	1080p	1080p
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, 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 4.0	Bluetooth 4.1	Bluetooth 4.2	Bluetooth 4.2	Bluetooth 4.0
GPS	A-GPS, Glonass	A-GPS, Glonass	GPS in cellular model only	A-GPS, Glonass	A-GPS, Glonass
NFC	×	×	×	×	✓
USB OTG	×	✓	×	×	✓
Fingerprint scanner	✓	×	✓	✓	×
Waterproof	×	×	×	×	✓
Extra features	None	None	Stereo speakers	None	PS4 Remote Play, stereo speakers
Geekbench 3.0 (single)	1816	Not tested	Not tested	1719	Not tested
Geekbench 3.0 (multi)	4523	4305	5257	3101	2708
JetStream	Not tested	Not tested	142	Not tested	1017ms
GFXBench: T-Rex	48fps	26fps	60fps	52fps	28fps
GFXBench: Manhattan	Not tested	11fps	34fps	25fps	11fps
Battery	7340mAh, non-removable	4000mAh, non-removable, Qi	7306mAh, non-removable	5124mAh, non-removable	4500mAh, non-removable
Dimensions	240x169.5x6.1mm	198.6x134.8x5.6mm	170x240x6.1mm	203.2x134.8x6.1mm	213x124x6.4mm
Weight	437g	265g	437g	304g	270g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/PLQXWSZ	TINYURL.COM/P37QFDW	TINYURL.COM/HFY7T4Z	TINYURL.COM/PBMONMA	TINYURL.COM/NJ6VHEO

Best tablets	 6	 7	 8	 9	 10
	Google Pixel C	**Huawei MediaPad M3**	**Amazon Fire**	**Sony Xperia Z4 Tablet**	**Xiaomi Mi Pad 2**
Price	**£399 inc VAT**	**£299 inc VAT**	**£49 inc VAT**	**£499 inc VAT**	**£144 inc VAT**
Website	Google.co.uk	Consumer.huawei.com/uk	Amazon.co.uk	Sony.co.uk	Mi.com/en
Build rating	★★★★½	★★★★½	★★★★½	★★★★½	★★★★½
Features rating	★★★★½	★★★½☆	★★★★½	★★★★½	★★★★☆
Performance rating	★★★★½	★★★½☆	★★★★☆	★★★★½	★★★★½
Value rating	★★★★½	★★★★☆	★★★☆☆	★★★½☆	★★★★★
Overall rating	★★★★½	★★★★☆	★★★★☆	★★★★½	★★★★½
OS (out of box)	Android 6.0 Marshmallow	Android 6.0 Marshmallow	FireOS 5	Android 5.0 Lollipop	Android 5.1 Lollipop
Processor	Nvidia Tegra X1	Hisilicon Kirin 950	1.3GHz quad-core	Snapdragon 810	Intel Atom X5-Z8500
RAM	3GB	3GB	1GB	3GB	2GB
Storage	32GB/64GB	32GB/64GB	8GB	32GB	16GB/64GB
MicroSD support	×	Up to 256GB	Up to 128GB	Up to 128GB	×
Graphics	Nvidia Tegra X1	Mali-T880 MP4	Mali 450	Adreno 430	Intel HD Graphics
Screen size	10.2in	8.4in	7in	10.1in	7.9in
Screen resolution	2560x1800	2560x1600	1024x600	2560x1600	2048x1536
Pixel density	308ppi	359ppi	171ppi	299ppi	326ppi
Screen technology	IPS	IPS	IPS	IPS	IPS
Front camera	2Mp	8Mp	VGA	5.1Mp	5Mp
Rear camera	8Mp	8Mp	2Mp	8.1Mp	8Mp
Video recording	1080p	1080p	Not specified	1080p	Not specified
Cellular connectivity	×	×	×	4G version available	×
Wi-Fi	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac	802.11a/b/g/n	802.11a/b/g/n/ac, dual-band	802.11a/b/g/n/ac, dual-band
Bluetooth	Bluetooth 4.1	Bluetooth 4.1	Bluetooth 4.0	Bluetooth 4.1	Bluetooth 4.1
GPS	×	×	×	A-GPS, Glonass	×
NFC	×	×	×	✓	×
USB OTG	×	×	×	✓	×
Fingerprint scanner	×	✓	×	×	×
Waterproof	×	×	×	×	×
Extra features	None	None	None	None	None
Geekbench 3.0 (single)	Not tested	Not tested	Not tested	Not tested	Not tested
Geekbench 3.0 (multi)	4048	5060 (Geekbench 4.0)	Not tested	4573	3280
JetStream	Not tested	Not tested	Not tested	580ms (SunSpider)	454
GFXBench: T-Rex	48fps	Not tested	Not tested	37fps	30fps
GFXBench: Manhattan	28fps	Not tested	Not tested	16fps	13fps
Battery	9000mAh, non-removable	5100mAh, non-removable	Not specified	6000mAh, non-removable	6190mAh, non-removable
Dimensions	242x179x7mm	215.5x124.2x7.3mm	191x115x10.6mm	254x167x6.1mm	200x133x7mm
Weight	517g	517g	313g	393g	322g
Warranty	1 year	1 year	1-year return-to-base	1 year	1 year
FULL REVIEW	TINYURL.COM/ZA79M7Z	TINYURL.COM/ZA79M7Z	TINYURL.COM/J3LJP7T	TINYURL.COM/JG34GZP	TINYURL.COM/H7DYTTL

Best smartwatches	1 	2 	3 	4 	5 
	Huawei Watch	**Apple Watch Series 2**	**Motorola Moto 360 2**	**Samsung Gear S2**	**Fossil Q Founder**
Price	**£289 inc VAT**	**£369 inc VAT**	**£229 inc VAT**	**£199 inc VAT**	**£259 inc VAT**
Website	Consumer.huawei.com/en	Apple.com/uk	Motorola.co.uk	Samsung.com/uk	Fossil.com/uk
Overall rating	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★☆
Operating system	Android Wear	iOS 10	Android Wear	Tizen-based OS	Android Wear
Compatibility	Android	iOS	Android, iOS	Android, iOS	Android, iOS
Display	1.4in 400x400 AMOLED	38mm, 340x272; 42mm, 390x312, AMOLED	1.37in 360x325 LCD	1.2in 360x360 AMOLED	1.5in, 360x326 LCD
Processor	Snapdragon 400	S2	Snapdragon 400	1GHz Exynos 3250	Intel Atom Z34XX
RAM	512MB	Not stated	512MB	512MB	1GB
Storage	4GB	4GB	4GB	4GB	4GB
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery	300mAh	273mAh	300mAh	250mAh	400mAh
Dimensions	42x11.3mm	38.6/42.5x33.3/36.4mm	42x11.4mm	42.3x49.8x11.4mm	47x13mm
Weight	40g	28.2g/34.2g	53.6g	47g	156g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/PXV9PVX	TINYURL.COM/HAT545L	TINYURL.COM/GUJR9XX	TINYURL.COM/P4UKB74	TINYURL.COM/Z3X6D6F

Best smartwatches	6 	7 	8 	9 	10 
	Samsung Gear S3 Frontier	**LG G Watch R**	**Asus ZenWatch 2**	**Motorola Moto 360**	**LG Watch Urbane**
Price	**£349 inc VAT**	**£195 inc VAT**	**£149 inc VAT**	**£199 inc VAT**	**£259 inc VAT**
Website	Samsung.com/uk	Lg.com/uk	Uk.sasus.com	Motorola.co.uk	Lg.com/uk
Overall rating	★★★½☆	★★★★½	★★★★☆	★★★★½	★★★★☆
Operating system	Tizen-based OS	Android Wear	Android Wear	Android Wear	Android Wear
Compatibility	Android, iOS	Android	Android, iOS	Android	Android
Display	1.3in 360x360 Super AMOLED	1.3in 320x320 P-OLED	1.63in 320x320 LCD	1.56in 290x320 LCD	1.3in 320x320 P-OLED
Processor	1GHz Dual-core	1.2GHz Snapdragon 400	1.2GHz Snapdragon 400	TI OMAP 3	1.2GHz Snapdragon 400
RAM	768MB	512MB	512MB	512MB	512MB
Storage	4GB	4GB	4GB	4GB	4GB
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery	380mAh	410mAh	300mAh	320mAh	410mAh
Dimensions	46x49x12.97mm	46.4x53.6x9.7mm	40.7x49.6x10.9mm	46x11.5mm	46x52x10.9mm
Weight	62g (without strap)	62g	50g	49g (leather band model)	67g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/GSSNXZM	TINYURL.COM/QATY8FT	TINYURL.COM/ZVRZLNJ	TINYURL.COM/O9C69K6	TINYURL.COM/Q3VK7ES

Best activity trackers

	1	2	3	4	5
					
	Fitbit Charge 2	**Fitbit Charge HR**	**Apple Watch Series 2**	**Fitbit Alta**	**Xiaomi Mi Band 2**
Price	**£129 inc VAT**	**£119 inc VAT**	**£369 inc VAT**	**£99 inc VAT**	**£33 inc VAT**
Website	Fitbit.com/uk	Fitbit.com/uk	Apple.com/uk	Fitbit.com/uk	Mi.com/en
Overall rating	★★★★½	★★★★½	★★★★☆	★★★★☆	★★★★½
Compatibility	iOS, Android, Windows	iOS, Android, Windows	iOS	iOS, Android, Windows	iOS, Android
Display	OLED	OLED	AMOLED	OLED	OLED
Pedometer	Yes	Yes	Yes	Yes	Yes
Heart-rate monitor	Yes	Yes	Yes	No	Yes
Sleep tracking	Yes	Yes	No	Yes	Yes
Alarm	Yes	Yes	Yes	Yes	Yes
Third-party app synching	Yes	Yes	Yes	Yes	Yes
Call notifications	Yes	Yes	Yes	Yes	Yes
Waterproof	Yes	Yes	Yes	Yes	Yes
Battery life	5 days	5+ days	18 hours	5 days	20-day
Weight	35g	26g	28.2g/34.2g	32g	7g (tracker only)
FULL REVIEW	TINYURL.COM/Z3NN8RL	TINYURL.COM/PCKV4SU	TINYURL.COM/HAT545L	TINYURL.COM/ZO8TN2L	TINYURL.COM/ZAF6OAW

Best activity trackers

	6	7	8	9	10
					
	Fitbit Surge	**Misfit Ray**	**MyZone MZ-3**	**Microsoft Band 2**	**Fitbit One**
Price	**£199 inc VAT**	**£79 inc VAT**	**£129 inc VAT**	**£199 inc VAT**	**£79 inc VAT**
Website	Fitbit.com/uk	Misfit.com	Myzone.org	Microsoft.com/en-gb	Fitbit.com/uk
Overall rating	★★★★½	★★★★½	★★★½☆	★★★½☆	★★★★½
Compatibility	iOS, Android, Windows	iOS, Android	iOS, Android, Windows	iOS, Android, Windows	iOS, Android
Display	Touchscreen	No	No	AMOLED	OLED
Pedometer	Yes	Yes	No	Yes	Yes
Heart-rate monitor	Yes	No	Yes	Yes	No
Sleep tracking	Yes	Yes	No	Yes	Yes
Alarm	Yes	Yes	No	Yes	Yes
Third-party app synching	Yes	Yes	No	Yes	Yes
Call notifications	Yes	Yes	No	Yes	No
Waterproof	Yes	Yes	Yes	Yes	No
Battery life	5 days	6 months	7 months	2 days	10-14 days
Weight	51g	8g	Not stated	159g	8g
FULL REVIEW	TINYURL.COM/O83DR47	TINYURL.COM/JG3XVT9	TINYURL.COM/HK5JOXX	TINYURL.COM/HHP4LMR	TINYURL.COM/PT2TC6F

Best headphones	1	2	3	4	5
	B&W P9 Signature	Bose QuietComfort 35	Denon AH-D600	Sharkk Bravo	Denon AH-MM400
Price	£699 inc VAT	£289 inc VAT	£229 inc VAT	£249 inc VAT	£196 inc VAT
Website	Bowers-wilkins.co.uk	Bose.co.uk	Denon.co.uk	Sharkk.com	Denon.co.uk
Overall rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★☆
Type	Circumaural over-ear	Circumaural over-ear	Circumaural over-ear	Circumaural over-ear	Circumaural over-ear
Frequency response	Not stated	Not stated	5Hz to 45kHz	6Hz to 45kHz	10Hz to 40kHz
Nominal impedance	Not stated	Not stated	25 ohms	32 ohms	32 ohms
Sensitivity	Not stated	Not stated	108dB	118dB	96dB
In-line remote	No	No	Yes	No	Yes
Mic	Yes	Yes	Yes	No	Yes
Extra tips	N/A	N/A	N/A	N/A	N/A
Carry case	Yes	Yes	Yes	Yes	Yes
Cable length	Not stated	1.2m	3m	1.35m	Not stated
Weight	413g	310g	250g	294g	310g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/HDR2UUG	TINYURL.COM/JZWSSSQ	TINYURL.COM/NBCFJW6	TINYURL.COM/Z5BGX9X	TINYURL.COM/J7G56N9

Best headphones	6	7	8	9	10
	Final Audio Design Sonorous III	Audio-Technica ATH-WS99	Bose QuietComfort 20	Bowers & Wilkins P5	Kef M100
Price	£299 inc VAT	£79 inc VAT	£259 inc VAT	£249 inc VAT	£119 inc VAT
Website	Final-audio-design.com	Eu.audio-technica.com/en	Bose.co.uk	Bowers-wilkins.co.uk	Kef.com
Overall rating	★★★★½	★★★★☆	★★★★½	★★★★½	★★★★½
Type	Circumaural over-ear	Over-ear	In-ear	On-ear, foldable	In-ear
Frequency response	Not stated	8Hz to 25kHz	20-21kHz	10Hz to 20kHz	20Hz to 20kHz
Nominal impedance	25 ohms	37 ohms	32 ohms	22 ohms	50 ohms
Sensitivity	105dB	120dB	105dB	108dB	-25dB
In-line remote	No	Yes	Yes	No	Yes
Mic	No	Yes	Yes	Yes	Yes
Extra tips	N/A	N/A	Yes	N/A	Yes
Carry case	No	No	Yes	No	Yes
Cable length	1.5m	0.8m	1.3m	1.2m	1.3m
Weight	410g	250g	44g	195g	18g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/JQW529E	TINYURL.COM/QDRCCAT	TINYURL.COM/OEAGFOF	TINYURL.COM/NNRV6UT	TINYURL.COM/Z384BD2

Best power banks





	1 Zendure A2 (2nd gen)	2 Anker PowerCore 10000	3 Omnicharge13	4 CHJDG UltraCompact	5 Xiaomi 10,000mAh
Price	**£25 inc VAT**	**£20 inc VAT**	**£103 inc VAT**	**£19 inc VAT**	**£11 inc VAT**
Website	Zendure.com	Anker.com	Omnicharge.co	Chargedpower.com	Mi.com/en
Overall rating	★★★★½	★★★★½	★★★★½	★★★★☆	★★★★½
Capacity	6700mAh	10,000mAh	13,600mAh	10,000mAh	10,000mAh
Input	1x 7.5W Micro-USB	1x 10W Micro-USB	DC 4.5-36V, 1W-34W	1x 5W Micro-USB	1x 10W Micro-USB
Outputs	1x 10.5W USB	1x QC 3.0 USB	2x 4.8A USB ports, plug socket	1x 10.5W USB	1x 10.5W USB
Auto-on/-off	Yes	Yes/No	No	Yes/No	Yes
Passthrough charging	Yes	No	Yes	Yes	Yes
Status indicator	4 LEDs	4 LEDs	OLED display	4 LEDs	4 LEDs
LED flashlight	No	No	No	No	No
Carry case	Yes	No	No	No	No
Dimensions	93x48x23mm	92x60x22mm	135x85x23.5mm	93x19x63mm	91x60.4x22mm
Weight	137g	188g	365g	181g	207g
Warranty	1 year	1 year	1 year	1 year	1 year
FULL REVIEW	TINYURL.COM/NGCNO5F	TINYURL.COM/ZSREH65	TINYURL.COM/JL97MK5	TINYURL.COM/JMOUUUO	TINYURL.COM/NFQZOCB

Best desktop chargers





	1 Tronsmart Titan	2 Tronsmart USPTA	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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