January 2021
Vol. XXXIII, No 1

KEYSTONE MacCentral

printout

Keystone MacCentral Macintosh Users Group ❖ www.keystonemac.com

# January Meeting

**Keystone MacCentral January Program**
**Jan 19, 2021 06:30 PM**

Join Zoom Meeting
https://zoom.us/j/96855827103?pwd=YzZ4Q3kwTXU2UGdLcENFcnlWTlA3UT09

Meeting ID: 968 5582 7103
Passcode: 904417

**The Cloud and You**

This month our emphasis will be on cloud storage -- mostly iCloud. Setting it up and maintaining it may not be entirely obvious. And because there are many other cloud services CloudMounter, which we plan on demonstrating, provides an way to manage your choices.

Our meeting are virtual meetings via Zoom
on the third Tuesday of each month (except during summer).
Just click on the link at the designated date and time.
The invitation will be sent out prior to each meeting.

# Contents

By Adam Engst & Josh Centers

# Apple Releases Apple Fitness+, macOS 11.1 Big Sur, iOS 14.3, iPadOS 14.3, watchS 7.2, and tvOS 14.3

In a move undoubtedly calculated to allow its engineers a chance to relax a bit during the holiday break, Apple pulled the lever on another all-OS release day. It brings the first update to macOS 11 Big Sur with new features and bug fixes, along with other feature-focused updates to iOS 14 and iPadOS 14, plus watchOS 7 and tvOS 14.

For the mobile devices, the updates add support for the new Apple Fitness+ service, among much else, while Big Sur gains support for the AirPods Max and the Apple ProRAW image format, plus smaller features and bug fixes.

It's too early to have any sense of whether these updates are trustworthy or not. Unless you want to subscribe to Apple Fitness+ right away or are suffering from a bug that these updates address, our advice is to wait at least a week or so and see how the immediate adopters (like us) fare.

### Apple Fitness+

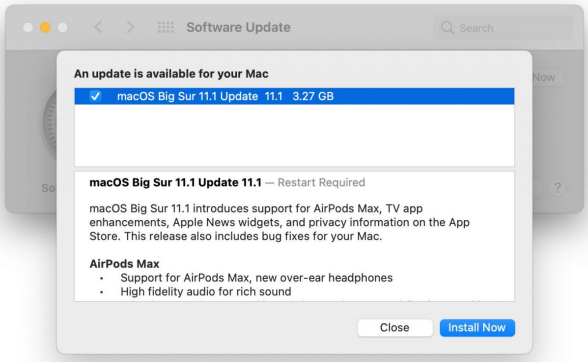
Apple Fitness+, which brings studio-style workouts to the iPhone, iPad, and Apple TV, is the star of these updates. It provides streamed video workouts that integrate with all of your Apple devices, tracking your fitness metrics and progress with your Apple Watch.


The Apple Fitness+ service, which can be shared by up to six family members through Family Sharing, costs $9.99 per month or $79.99 per year. All current owners of an Apple Watch Series 3 or later get a free month to try it out and, if you buy a new Apple Watch, Apple will give you three months for free.

Both trials convert to the $9.99 per month subscription automatically, so if you don't wish to continue, or if you want to convert to an annual subscription, set yourself a reminder to do that before your trial ends. Apple timed the release well since lots of people will have extra time at home while cooped up over the holidays, and perhaps they'll also be encouraged by new Apple gear.

### macOS 11.1 Big Sur

In a notable reversal from last year's cavalcade of bug fix updates to 10.15 Catalina, Apple's first update to Big Sur is a feature release. (Amusingly, the link to its release on Apple's Big Sur updates page currently ends with #macos1102 as the anchor name, suggesting that some parts of Apple may have expected a minor update.)




macOS 11.1 Big Sur does address a few bugs, but it also provides some new features, including:

- Support for the new AirPods Max headphones (see "Apple's One Last Thing for 2020: AirPods Max," 8 December 2020)

- In the Apple TV app, a new tab for Apple TV+, along with browsing by category and display of recent searches and suggestions as you type
- Apple News widgets for Notification Center
- A new privacy information section on App Store app pages with a developer-reported summary of the app's privacy practices
- On M1-based Macs, the option to switch iPhone and iPad apps between landscape and portrait orientation, plus a full-screen option
- Support for editing Apple ProRAW images in Photos
- An option to make Ecosia the default search engine in Safari
- Air quality data and recommendations via Siri and Maps in certain countries

When it comes to bug fixes, Apple listed only five, but a few are tremendously welcome. The problems they address include:

- QuickTime Player might quit when opening a movie with a timecode track after upgrading from Catalina
- Bluetooth connection status was not displayed in Control Center
- Improved reliability when unlocking your Mac automatically with your Apple Watch
- Trackpad scrolling speed may be faster than expected on MacBook Pro models
- The LG UltraFine 5K Display may incorrectly display at 4K resolution on M1-based Macs

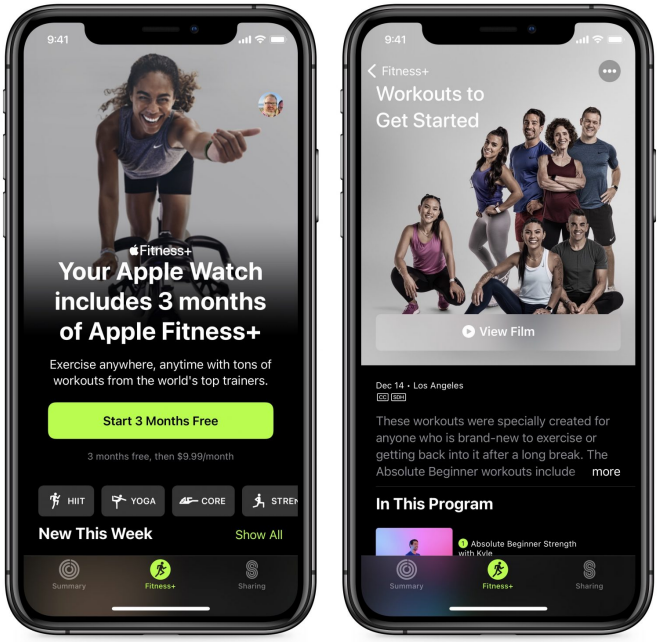
We've also heard speculation that Apple fixed a lot of bugs in the Rosetta 2 translation system. If that's the case, those running M1-based Macs should consider upgrading sooner.

macOS 11.1 includes fixes for 14 security vulnerabilities.

Apple advertises it as a 3.27 GB download for both Intel-based and M1-based Macs, but an M1-based MacBook Air downloaded 4.19 GB of data.

**iOS 14.3 and iPadOS 14.3**

The big features in iOS 14.3 and iPadOS 14.3 are Apple Fitness+ and support for the AirPods Max. You can find Apple Fitness+ in the Fitness app (formerly known as Activity), under the Fitness+ tab in the center. If you want the Fitness app on your iPad, you must download it separately from the App Store.




iOS 14.3 boasts some other interesting new features. You can now set Ecosia as Safari's default search engine. Ecosia promises to keep your search data private from advertisers and vows to plant trees with your searches. We're not exactly clear how that works, but it sounds positive.

Another change lets Shortcuts icons on the Home screen launch directly, without first opening the Shortcuts app. iOS 14 lets you create a shortcut to an app with your own custom icon, which led to a rush of people customizing their Home screens. Until now, icon customization meant a longer, more awkward process to open apps. The downside is that each launch of the shortcut displays a confirmation banner, which gets old fast.

iOS 14.3 brings some exciting features for photographers. The iPhone 12 Pro and iPhone 12 Pro Max can now capture photos in the Apple ProRAW format. ProRAW photos let professional photographers shoot in raw format (which provides the most flexibility for later editing) without losing the advantages of the iPhone's multi-frame computational photography. PetaPixel has a nice overview and a review with lots of side-by-side examples—ProRAW is apparently the most useful when using Night Mode. To shoot in ProRAW format, you have to enable it in Settings > Camera and then turn it on in the Camera app.

iOS 14.3 adds support for App Clip Codes. App Clips are small applets that let you try an app without installing the entire thing. You can find them on Web pages or access them from QR codes. App Clip Codes are special Apple-designed NFC-embedded tags you can scan to try App Clips in the physical world. You can try App Clips by visiting the Chibi Studio Web page in Safari running in iOS or iPadOS.

Other iOS 14.3 features include:

- An Apple TV+ tab in the Apple TV app
- 25 fps video capture on the iPhone 12 Pro and iPhone 12 Pro Max
- New privacy information on App Store pages
- The capability to denote pregnancy, lactation, and contraceptive use in the Health app's Cycle Tracking feature
- Air quality data in Weather, Maps, and Siri for mainland China
- Air quality recommendations in the United States, Mexico, United Kingdom, Germany, and India

iOS 14.3 also fixes issues that:

- …prevented MMS messages from being received
- …prevented Messages notifications
- …left members out of contact groups when composing messages
- …caused videos to be displayed incorrectly when shared from Photos
- …prevented app folders from opening
- …broke Spotlight search
- …made Bluetooth unavailable in Settings
- …prevented iPhones from charging wirelessly
- …kept the MagSafe Duo Charger from charging iPhones at maximum power
- …prevented WAC wireless accessories from being set up
- …made the keyboard vanish when adding a list in Reminders with VoiceOver

iOS 14.3 and iPadOS 14.3 address nine security vulnerabilities.

The iOS 14.3 update is 602.7 MB on an iPhone 11 Pro, and you can install it from Settings > General > Software Update. The iPadOS 14.3 update, with a very similar list of tweaks and additions, weighs in at 1.2 GB on a 10.5-inch iPad Pro.

#### watchOS 7.2

Unsurprisingly, the changes in watchOS 7.2 are devoted almost entirely to Apple Fitness+. Somewhat confusingly, although Apple renamed the Activity app on the iPhone to Fitness, watchOS 7.2 retains the Activity name for the app, watch face, and complications.


Other features and improvements in watchOS 7.2 include:

- An option to be notified when your cardio fitness is at a low level, presumably informed in some way by the new Apple Fitness+ metrics
- The ability to review your cardio fitness level based on your age and sex in the Health app on iPhone
- Added atrial fibrillation classification at heart rates above 100 BPM in the ECG app (in most regions where the app is available)
- Support for the ECG app on compatible Apple Watch models in Taiwan
- Support for braille displays with VoiceOver
- Support for Family Setup in Bahrain, Canada, Norway, and Spain

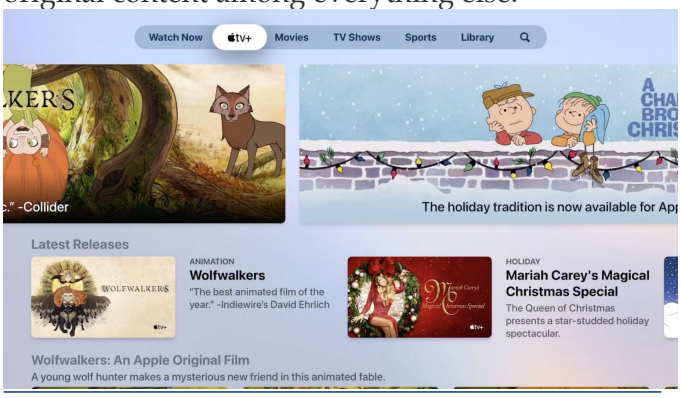
watchOS 7.2 addresses eight security vulnerabilities, nearly all of which are in the core code shared among Apple's operating systems.

It's a 296 MB download for an Apple Watch Series 5. To install the watchOS 7.2 update, open the Watch app on your iPhone and go to My Watch > General > Software Update. Remember that the watch must be on its charger and charged to at least 50%.

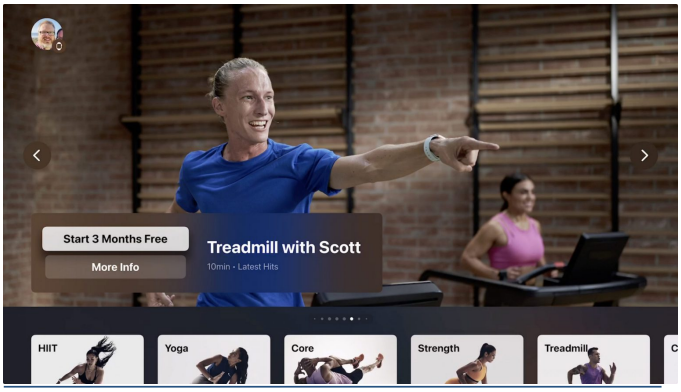
**tvOS 14.3**

In a change of pace, the tvOS 14.3 update for the Apple TV HD and Apple TV 4K delivers more than the usual unspecified bug fixes, providing two notable changes:

- The Apple TV app now has its own tab dedicated to Apple TV+, which is handy if you subscribe to that service and want to know what you're paying for. In the past, it has been difficult to find Apple's original content among everything else.




- There is a new Apple Fitness+ app on the Home screen. You can browse the available courses without signing up, and it includes an offer for a free three-month trial.




In addition to these new features, tvOS 14.3 includes fixes for seven security vulnerabilities.

To install the tvOS 14.3 update, go to Settings > System > Software Update, or just let it install on its own.

**By Julio Ojeda-Zapata**

# The iPhone Gets 5G, but What's It Like in Real-World Use?

Ever since 5G began rolling out where I live, in Minnesota's Twin Cities, I've eagerly waited for the iPhone to support the next-generation cellular data technology.

In part, that's because I've experienced eye-popping speeds on 5G-capable Android phones that have been shipping in the last year or so. One lovely summer 2019 day in downtown St. Paul's Rice Park, I achieved download speeds of more than 2 gigabits per second, about twice the maximum throughput of wired home broadband in St. Paul. *¡Ea rayo!* (That's Puerto Rican for "holy crap!")

As those who buy one of Apple's 5G-compatible iPhone 12 models will discover, though, 5G in its current form is far from a passport into a science-fiction future of ubiquitous broadband-grade wireless access. Those crazy-fast downloads are not available everywhere, or really, much of anywhere.

What coverage you'll find depends on your carrier —AT&T, T-Mobile, or Verizon in the US—and where you live. The vast majority of 5G users across the country will not see eye-popping 5G speeds on par with what I experienced in Rice Park, and many will have no 5G access at all even if they have 5G phones.

So, while I had a blast recently testing T-Mobile and Verizon 5G on an iPhone 12 and an iPhone 12 Pro, I came to realize how far we are from ubiquitous 5G coverage.

### A Three-Layer Cake

Making sense of 5G takes a bit of effort because it is not one technology, but a hodge-podge of wireless frequencies. My TidBITS compadre Glenn Fleishman goes into quite a bit of detail about 5G complexities and implications (see "Understanding 5G, and Why It's the Future (Not Present) for Mobile Communications," 11 November 2020).

But, for this article, I'm focusing on how 5G breaks into three broad categories:

• **High band:**This is the fastest of the 5G wireless frequencies—the one I was tapping during my St. Paul speed test—but also the most limited in range and coverage. It's meant to be used mostly outdoors since it's easily foiled by walls and other obstructions. It's available in extremely limited urban areas.

- **Middle band:** This is a good compromise option with higher speeds than the low band provides and far greater (though still mostly urban) coverage than the high band offers. And, like the low band, it works indoors or outdoors. It is possible that the middle band will someday be what most users equate with 5G.
- **Low band:** This wireless frequency has the widest coverage by far, blanketing much of the country (including rural areas). However, its speeds are much slower than the high band—often on par with or slightly faster than 4G LTE. Unlike the high band, the low band works just fine indoors as well as outdoors.

T-Mobile provides an apt analogy in the form of a three-layer cake that illustrates the proportional availability of its high-band, middle-band, and low-band service in the United States.


AT&T, T-Mobile, and Verizon all provide low-band service across much of the country. All three also offer high-band service, known as millimeter-wave or mmWave, but just in nooks and crannies of particular cities. Middle-band service is currently a T-Mobile exclusive in this country, courtesy of its recent merger with Sprint, but its rivals are reportedly snapping up spectrum for their own middle-band offerings down the road.

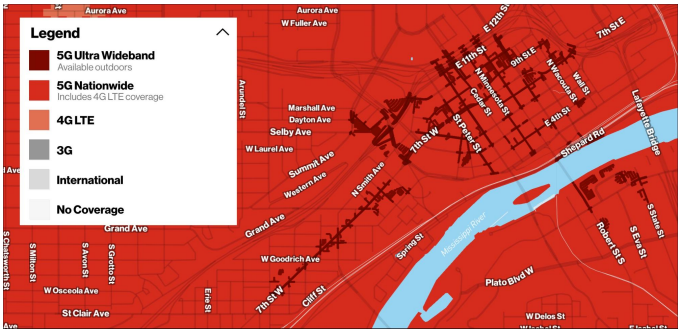
5G also has been confusing on the hardware front, with not every Android phone supporting every flavor of 5G. The new iPhone models, however, will work across the entirety of the 5G spectrum. They're fully compatible with the 5G flavors offered by AT&T, T-Mobile, and Verizon, along with companies such as Comcast that rebrand 5G service from one of the big three carriers.

With T-Mobile and Verizon 5G SIM cards plugged into loaner iPhone 12 and iPhone 12 Pro devices, I set out on my most extensive and exciting 5G adventure to date.

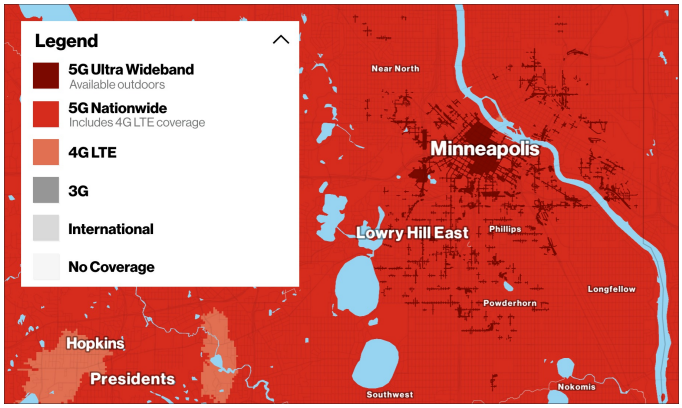
### Verizon's High Band

With Verizon, I focused on the high band—what the carrier calls Ultra Wideband—since it's the only carrier to offer mmWave service in my area. To my chagrin, the service footprint has not expanded a great deal in St. Paul since I sampled it a year or so ago. So much for Verizon's promise to expand its Ultra Wideband coverage aggressively.

On the map below, dark red sections represent slivers of coverage across downtown St. Paul, southwest along the West Seventh Street commercial drag, and in a couple of pockets to the southeast across the Mississippi River. Interestingly, those pockets include the area around the building where my St. Paul Pioneer Press employer is based, possibly because we share the premises with Comcast and its Verizon-derived Xfinity Wireless. Lucky us!



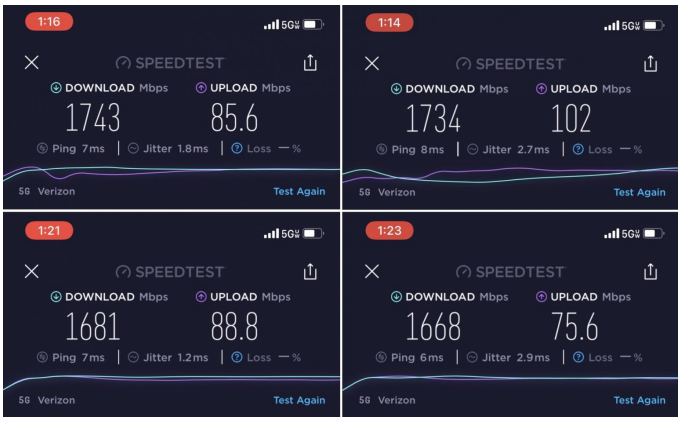

Verizon's high-band network is more built out to the west in Minneapolis. But, again, it is mostly centered on that city's downtown, along with scattered portions of surrounding neighborhoods. In other words, the vast majority of residents and businesses across the Twin Cities metro area (including suburbs) have no mmWave access.




As of mid-October, Verizon offered mmWave coverage in 55 cities, including an announcement of 19 new cities timed to coincide with Apple's iPhone 12 press event (see "The iPhone 12: Here's What You Need to Know," 13 October 2020). The company aims to have Ultra Wideband in 60 cities by year's end, along with low-band service that, as of mid-October, served 200 million people in 1800 US cities.

But Ultra Wideband, though often ultrafast, has a few gotchas. Verizon makes it clear that the service is intended to be used mostly outdoors since it can't penetrate walls. In fact, it is easily disrupted by anything physical—such as tree leaves or torrential rain—that impedes line of sight with one of the 5G mini-antennas densely deployed in urban areas, typically on light poles and the like.

While testing Verizon's Ultra Wideband, I got the best results when near (and with a clear view of) the above antenna array on a light pole near Rice Park. I never was able to duplicate those earlier 2 Gbps downloads, but I got close, with around 1.7 Gbps.




Elsewhere downtown, I mostly saw slower downloads, though they were still in the hundreds of megabits per second.

And, as I wandered downtown, I found it tricky to find an mmWave signal even while trying to stay within the Ultra-Wideband portions on the coverage map. The tip-off is the "UW" badge that pops up beside "5G" on the upper right of the iPhone screen when it detects an mmWave signal. But those letters would maddeningly wink on and off on my iPhone 12 as I twirled around and took steps in various directions in often-vain attempts to lock in. I must have looked like a crazy person practicing dance moves.

I got great service in places where it wouldn't seem to be of much use, such as on the Robert Street Bridge linking downtown to southeastern sections of St. Paul. Yet, just across the bridge, strolling the grounds of 10 River Park Plaza where Comcast and my employer have their digs, I struggled to connect. (So much for that lucky location.)

In any case, my speed tests never approached the 4 Gbps peak download speeds Verizon CEO Hans Vestberg bragged about while on stage with Tim Cook.

Given my difficulties when trying to find Ultra Wideband coverage, I'd hate to depend on it. But, when I was able to use mmWave, I did often feel like I was in the future. I once lived in downtown

St. Paul in a high-rise condominium with a balcony that, based on a check of the coverage map, would seem to allow the current condo residents to tap into Verizon's Ultra Wideband while enjoying the amazing view. I almost regret moving.

Verizon 5G is unremarkable for those outside an Ultra-Wideband footprint. The carrier doesn't promise performance that is much faster than 4G LTE. In my testing, I saw its low-band downloads hover around 50 Mbps—roughly on par with 4G LTE from my regular AT&T service on an iPhone 11 Pro.

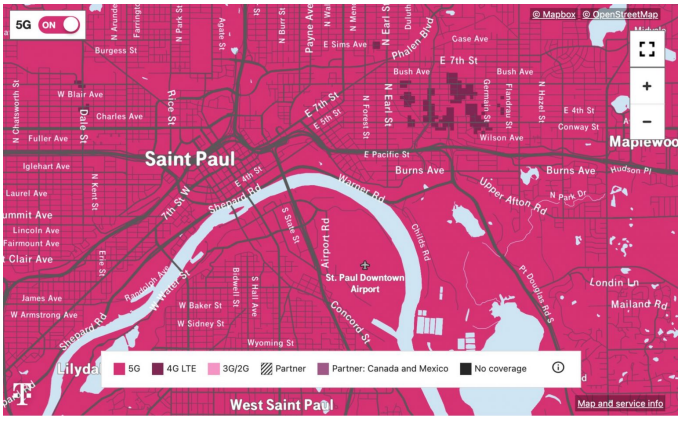
**T-Mobile's Middle Band**

That is what makes T-Mobile's 5G strategy so appealing. Like Verizon, it has blazingly fast mmWave service. As of this writing, it can be found in pockets of seven cities—Atlanta, Cleveland, Dallas, Las Vegas, Los Angeles, Miami, and New York City.

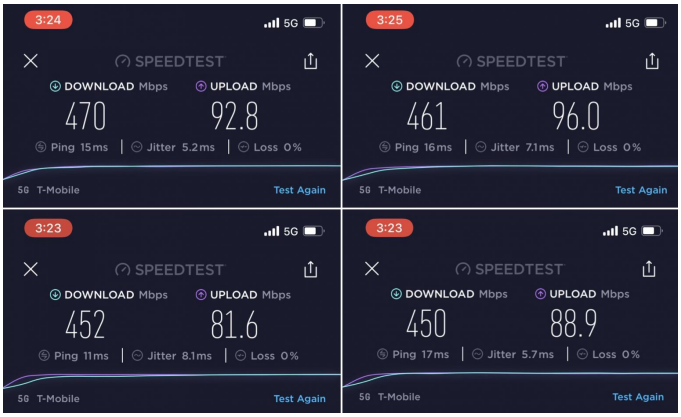
But millions of T-Mobile customers who are not in one of those tiny mmWave footprints have the next best thing, middle-band service. It's slower than mmWave but still plenty fast compared to low-band service.

As of 28 October 2020, T-Mobile's middle-band service was available in 410 cities and towns across the country and is slated to cover 100 million people by the end of the year. For context, T-Mobile's low-band network covers 260 million people across 7500 cities and towns.

As with Verizon, I tested T-Mobile's service while roaming downtown St. Paul. I didn't need to squint at a coverage map, though, since middle-band service is more broadly available (displayed on the map below as a magenta ocean, with isolated darker pockets denoting slower 4G LTE service).




As with Verizon's mmWave, though, my speed tests were highly variable. I got the best results while standing outside Xcel Energy Center (home of the mighty Minnesota Wild hockey team). Consistent speeds in the mid-hundreds of megabits per second are not too shabby.




But elsewhere, like in my home office, middle-band service wasn't stunning. I'd get downloads of 100 megabits per second or so, which is a huge slowdown. Nevertheless, it's about twice what I'd get with 4G LTE and about what I see with my Comcast Xfinity home broadband service, so I guess I should not gripe.

Speed variability is related to signal strength. Though T-Mobile's St. Paul coverage map is a uniform shade of magenta, clicking around the Web interface shows signal quality ranging from "excellent" to "limited" in various spots. In fact, T-Mobile guarantees dependable middle-band coverage in only a handful of municipalities other than St. Paul and Minneapolis, but the carrier said

its coverage in the Twin Cities and elsewhere is rapidly expanding.

Even with these limitations, I found T-Mobile's service to be hugely appealing. While Verizon's Ultra Wideband borders on the useless because of its minuscule St. Paul footprint, T-Mobile's middle-band service is exponentially more practical since I can tap into it around St. Paul and some of its surroundings.

#### But What's It Good For?

I have heard lots of pie-in-the-sky talk about what 5G will be used for in the coming years. Glenn's article lists such "purported potential uses of 5G" made possible by the technology's higher speed and lower latency, including augmented reality, high-performance video games, vast sensor networks, and remotely controlled medical procedures, autonomous vehicles, and industrial robots.

Although I'm sure some of these 5G predictions will come to pass, I can't help rolling my eyes because I have heard much such fanciful talk related to past technological advances in my decades as a technology journalist.

However, I have already alluded to an obvious 5G use: home broadband service. With such speedy connections, wouldn't it make sense to roll out some kind of 5G residential broadband service?

As it happens, Verizon has done exactly that. Its 5G Home service taps into Ultra Wideband to compete, at least within its limited geographic availability, with traditional broadband options like Comcast Xfinity and CenturyLink Fiber. 5G Home is available in eight US cities—including Minneapolis and St. Paul—with two more cities reportedly coming online by the end of the year.

5G Home costs $50 per month for those with certain kinds of Verizon cellular-wireless plans and $70 per month for others—with no data caps in either instance.

To go around mmWave's difficulty with physical obstructions, Verizon positions antennas either outside a home or indoors attached to a window; Verizon assures me that the 5G signal penetrates some kinds of glass just fine.

This means, if I still lived in my condo, Verizon could be my broadband provider. If so, I am a bit envious of whoever resides there now since the wireless service would be up to twice as fast as any wired residential broadband service available here.

So what about a T-Mobile broadband option using middle-band service? T-Mobile tells me that is in the works. The carrier does provide 4G LTE-based home Internet in certain, largely isolated parts of the country. So, for that matter, do AT&T and Verizon. But T-Mobile middle-band home broadband would be an improvement, assuming its performance matches what I experienced.

#### So Is a 5G iPhone Worth It?

All this raises the obvious question: Should you upgrade to one of the iPhone 12 models for 5G alone? (There are lots of other reasons to upgrade, but we'll sidestep those for now.)

If you use AT&T or Verizon, perhaps not. With nationwide service mostly of the low-band nature, the speed benefits over 4G LTE are incremental at best.

T-Mobile customers interested in faster service should give an iPhone upgrade more thought. Its speedy middle-band service can be found in lots of places, though it's not as common as the company's low-band service. If you are in such a middle-band service area, the purchase of a new iPhone gets you a decent, consistent speed boost. T-Mobile does not charge extra for it, either.

You should also check whether you live or work in or near one of the places where one of the carriers

provides blazingly fast high-band service. This includes the 36 cities where AT&T has such connectivity. But, again, keep in mind that the service works only in small portions of such cities, so study coverage maps carefully to see whether such mmWave pockets are relevant and useful to you.

In the end, few people will buy a new iPhone for its 5G capabilities. What's important is that upgrading will future-proof yourself for the near future, when decent 5G speeds become more widely available from all the carriers.

# Apple Updates

### Brother Printer Drivers 4.1.1 for macOS
### Dec 19, 2020 — 261.1 MB

System Requirements
- OS X Mountain Lion 10.8
- OS X Mavericks 10.9
- OS X Yosemite 10.10
- OS X El Capitan 10.11
- macOS Sierra 10.12

This update installs the latest Brother printing or scanner.

### Security Update 2020-001 (Catalina)
### Dec 16, 2020 — 1.33 GB

System Requirements
- macOS 10.15

Security Update 2020-001 is recommended for all users and improves the security of macOS.

### Security Update 2020-007 (Mojave)
### Dec 16, 2020 — 1.7 GB

System Requirements
- macOS 10.14

Security Update 2020-007 is recommended for all users and improves the security of macOS.

### HP Printer Drivers v5.1 for macOS
### Dec 11, 2020 — 600.1 MB

System Requirements
- OS X Mavericks and later

This download includes the latest HP printing and scanning software for macOS.