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MAY 2021

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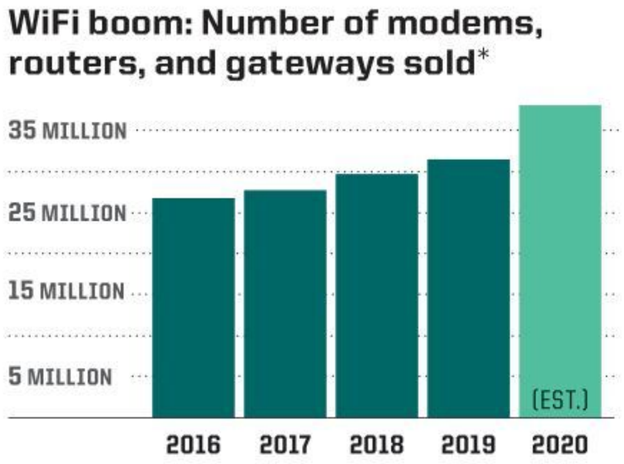


Source: Consumer Technology Association.

PRODUCT UPDATE

THE LATEST RATINGS FROM OUR LABS

LINKSYS VELOP AC3600 (3-Pack)
$200

59 OVERALL SCORE

EERO HOME WIFI 2ND GEN. (3-Pack)
$200

71 OVERALL SCORE

NETGEAR NIGHTHAWK AX1800 (2-Pack)
$200

80 OVERALL SCORE

Better WiFi for Way Less

A lower-cost mesh router can help you fix the spotty coverage in your home.

by Nicholas De Leon

*Number of units sold to consumers and internet service providers; the 2020 figure is estimated.

In the last five years, mesh routers have dramatically improved the quality of life in many American homes, helping WiFi-hungry families quickly and effectively eliminate the slowdowns and dead spots in their WiFi networks.

What's the secret?

Unlike a traditional router, a mesh router uses multiple devices—a hub and often two satellite units—that work together wirelessly to blanket your dwelling in WiFi coverage, relaying the signal from your internet service provider (ISP) deep into every corner of the space.

In a larger house (3,000 to 5,000 square feet) or one with a rambling layout, that multipart design is a significant advantage. It allows you to move the satellites around, pushing the signal farther into a spare bedroom or outside to the deck, while also steering it away from potential roadblocks such as doors, walls, plumbing, and appliances.

Until very recently, however, you had to have deep pockets to afford this WiFi cure. We're talking $300 to $500 for a good mesh router system.

Happily, in the last 12 months a new generation of lower-cost options has made this fix more affordable. At the moment, 11 of the 19 models in our ratings range from $150 to $250.

But are those models any good?

The answer is a resounding yes. Most do a great job spreading fast, stable WiFi throughout your home. Here's a look at what our tests have found.

Do the Lower-Cost Options Give the Same Performance?

As our testing data shows, wall-to-wall coverage can be yours for less. You'll find very comparable performance (speed-wise and coverage-wise) between budget-friendly mesh routers and their pricier siblings.

PHOTO: JOHN WALSH/CONSUMER REPORTS

3 SIGNS YOU NEED A NEW ROUTER

Here are a few good reasons to spring for a more up-to-date model—mesh or otherwise.

1 The model you own is ill-equipped to handle all your devices. For most people, a WiFi 5 router should work just fine. For others, a WiFi 6 model can better manage traffic jams created by multiple smartphones, laptops, and smart home devices. If everyone in the house enjoys gaming or streaming Netflix in 4K, it might be time for a WiFi 6 router.

2 The model you own puts your data at risk. If your current router has been discontinued by its manufacturer, it may be ineligible for security updates. This exposes all the personal info flowing in and out of your network to the threat of hackers and other bad actors. To check on the model's status, do an online search for the manufacturer's "end of life" list.

3 The model you use has a high rental fee. If you're giving your internet service provider $10 a month or more, you can buy a new model that pays for itself within two years. As part of the bargain, you'll also get more control over your router's privacy and security settings.

For example, the $400 Netgear Orbi AX4200 at the top of our ratings chart on page 23 scored a 5 out of 5 for throughput speed (the rate at which internet data is communicated) at the near, midrange, and far distances we use to simulate the environment in a typical home. But so did the $230 Netgear Nighthawk AX1800 that sits in the No. 2 spot.

In fact, many of the $200 models actually outperform pricier rivals in our throughput tests.

Do You Get the Same Features?

Given the high-end price, you might expect to find far more features on a $500 mesh router, but that's not necessarily the case. The $200 options are just as likely to offer simple setup and management via a mobile app that you download to your phone or tablet, parental controls that can help you limit access, and automatic firmware updates, which protect you and your data by ensuring that you always have the latest security patches in place.

At times, a pricier model will offer more Ethernet and USB ports, letting you connect additional devices—printers, external hard drives, etc.—to your router via a cable. This lets you share those devices with other family members on the network and gives, say, your game console a slightly stronger and faster WiFi signal than a wireless connection provides. The $345 Asus AX6100 RT-AX92U, for example, has eight Ethernet ports and two USB ports.

But if you shop around, you'll find lower-priced models with two to three Ethernet ports. Want enough for a fleet of game consoles? The $150 TP-Link Deco Whole Home has six.

Do You Get the Latest Tech?

If you go shopping for any router this year, you'll almost certainly hear about WiFi 6 and WiFi 6E, hotly

marketed tech upgrades unveiled not long ago by the Wi-Fi Alliance.

Routers that support WiFi 6 are designed to better manage the growing army of internet-connected devices in the average home. Think laptops, tablets, smartphones, smart speakers, and all that other gear now vying for your WiFi signal.

WiFi 6E was created for high-density environments such as apartment buildings, where neighbors' devices can interfere with your signal.

If you live in a high-tech home—one flush with state-of-the-art gadgets like the iPhone 12 and PlayStation 5, both designed for WiFi 6—you may want to consider springing for a router with that technology. At the moment, only three of the lower-cost mesh routers in our ratings support WiFi 6 (also known as 802.11ax). The rest use the older WiFi 5 standard (802.11ac) from 2014.

For most users, WiFi 5 should prove more than adequate for years to come. And you can always take advantage of the "prioritization" feature included on most mesh routers—regardless of price—which lets you choose which devices get first dibs on the WiFi signal. Using the mobile app, simply adjust the settings so that nothing slows Mom's laptop connection.

Is There a Cheaper Option?

In certain scenarios, a $30 WiFi range extender might be all you need to address a trouble spot in your house. Let's say you have a WiFi dead zone in your home office. To fix it, you simply plug the extender into a power outlet midway between your router and the office, and the WiFi signal gets pushed deeper into your home.

Just keep in mind that this is not a perfect solution: An extender's effectiveness is limited by a number of factors, including the speed of the internet connection coming into your home, the distance from your router, and the WiFi demands of your family. You're also likely to notice a significant drop-off in signal speed in the "extended" zone—as much as 50 percent, according to our tests.

That slowdown might not be an issue if you're just hoping to read email on the back deck, but it won't cut it if you're trying to get everyone on the second floor a strong signal for streaming movies or joining Zoom meetings. In that case, you're better off with a mesh router.

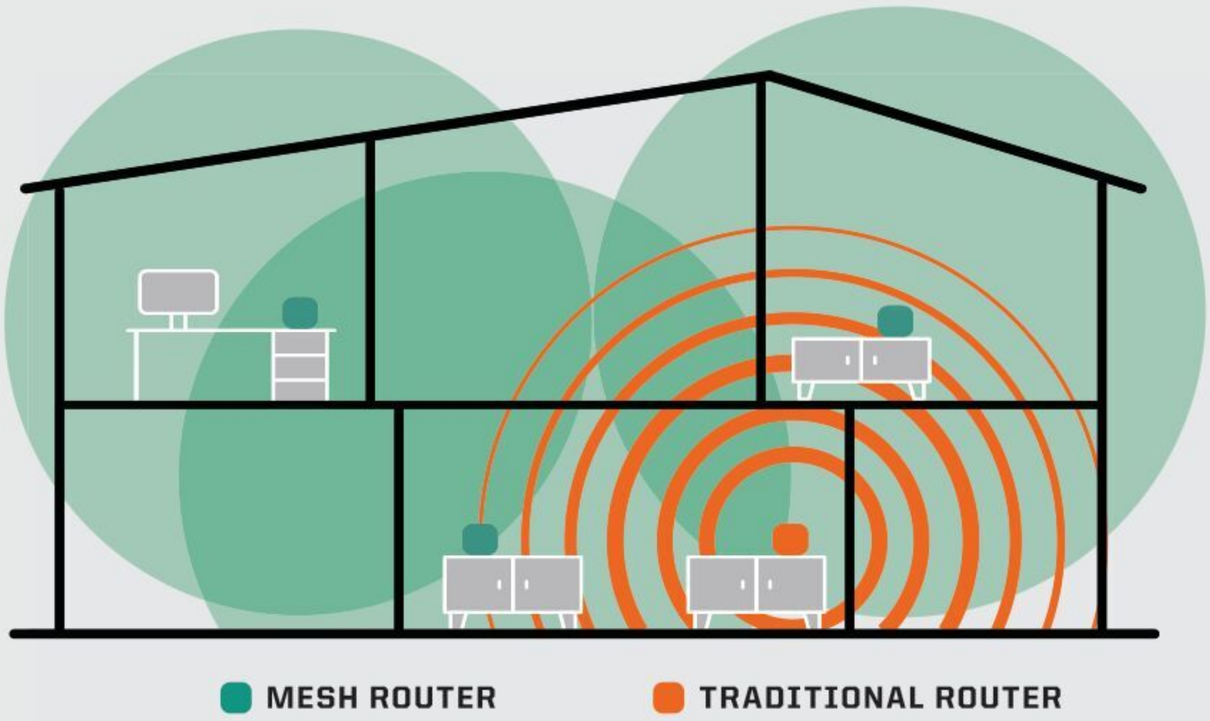
REGULAR ROUTER VS. MESH ROUTER: WHAT'S THE DIFFERENCE?

IT ALL COMES down to precision and price. A traditional router can be cost-effective, but a mesh router gives you more control over where the WiFi signal goes.

COST: The traditional routers we've tested fall between $60 and $400. (For ratings, Digital and All Access members can go to CR.org/wireless-routers.) The mesh routers in our ratings (on the facing page) range from $150 to almost $500.

COVERAGE: In a large house, or in a house with thick walls or obstacles that create WiFi dead spots, the hub-plus-satellites setup of a mesh router can help extend the signal and point it where it's needed.

LOGISTICS: The farther the signal gets from a traditional router, the more it degrades. If possible, place the device in the center of your home (you may need a long Ethernet cable to move it). Ideally, the hub of a mesh router should also go in the center of your home, between its two satellites, says Richard Fisco, who oversees electronics testing for CR. That way the signal has to make only one hop (to each satellite) to be relayed.



ICONS: ELIAS STEIN

Brand + Model	Overall Score	Price	Test Results							Features					
			Data security	Data privacy	Throughput, near	Throughput, midrange	Throughput, far	Versatility	Ease of setup	Supports WPS	Parental controls	Prioritization	WiFi standard	Number of LAN ports	Number of USB ports
MESH WIFI															
Netgear Orbi AX4200 (2-Pack)	85	$400	▲	▼	▲▲	▲▲	▲▲	I	▲▲			●	6	5	0
Netgear Nighthawk AX1800 (3-Pack)	82	$230	▲	▼	▲▲	▲▲	▲▲	▲	▲▲		●	●	6	4	0
Netgear Nighthawk AX1800 (2-Pack)	80	$200	▲	▼	▲	▲▲	▲▲	▲	▲▲		●	●	6	1	0
TP-Link Deco Whole Home (3-Pack)	76	$150	▲	I	▲▲	▲	▲▲	▲	▲▲	●	●	●	5	6	0
Eero Pro Tri-band Mesh Network (3-Pack)	76	$400	▲	I	▲	▲▲	▲	▲	▲▲		●	●	5	5	0
TP-Link Deco X60 AX3000 (3-Pack)	73	$330	▲	I	▲	▲▲	▲▲	I	▲▲				6	2	0
Netgear Orbi AC1200 (3-Pack)	73	$180	▲	▼	▲▲	▲	▲	▲	▲		●	●	5	1	0
Eero Home Wifi (2nd Gen.) (3-Pack)	71	$200	▲	I	▲	▲	▲▲	I	▲▲		●		5	2	0
Linksys Velop AC6600 (3-Pack)	69	$200	▲	▲	▲	▲	▲▲	▲	▲	●	●	●	5	2	0
Gryphon Guardian AC1200 (3-Pack)	69	$240	I	I	▲	▲	▲▲	▲	▲		●	●	5	3	0
Arris Surfboard Max Plus AX7800 (W130) (2-Pack)	65	$485	I	▼	▲▲	▲	▲	I	▲		●		6	3	0
Google Nest Wifi (3-Pack)	63	$350	▲	▲	▲	I	▲	I	▲▲				5	2	0
Google Wifi AC1200 Dual-Band Whole Home (3-Pack)	63	$200	▲	▲	I	I	▲	I	▲		●	●	5	5	0
Asus ZenWiFi AX Whole Mesh System (2-Pack)	62	$400	▲	I	I	I	▲	▲▲	▲▲		●	●	6	6	1
Asus AX6100 RT-AX92U (2-Pack)	60	$345	▲	I	▼	I	▲▲	▲▲	▲▲		●	●	6	8	2
Linksys Velop AC3600 (3-Pack)	59	$200	▲	▲	▲	I	▲	I	▲▲		●	●	5	2	0
Linksys Velop AC3900 (3-Pack)	58	$230	I	I	I	I	▲	I	▲▲	●	●	●	5	2	0
Asus ZenWiFi AX1800 XD4 (3-Pack)	58	$250	▲	I	▼	I	▲▲	▲	▲▲			●	5	3	0
Ubiquiti Networks Amplifi (AC1750) (3-Pack)	56	$350	I	▼	▲	I	▲	I	▲				5	4	1

HOW WE TEST: The **Overall Score** is based on the performance of a device's data security protections, signal speeds, versatility, and ease of setup. **Data security** evaluates how well the device and its service provider protect personal info via authentication, encryption, software updates, and resistance to known exploits. **Data privacy** is a measure of how the device and its service provider collect, share, and use data, and how much control the user has over the flow of that data.

Throughput scores are based on signal speeds at near (8 feet from router), midrange (30 feet away), and far (an average of the results at 45 and 100 feet away) distances. **Versatility** scores are based on the number of LAN and USB ports, parental control options, and quality of tech support. **Ease of setup** is based on the availability of status LEDs, guest network options, and WiFi-protected setup, and the simplicity of the mobile app or web browser-based activation process.