Experts: It's safer to leave your phone in airplane mode when you fly

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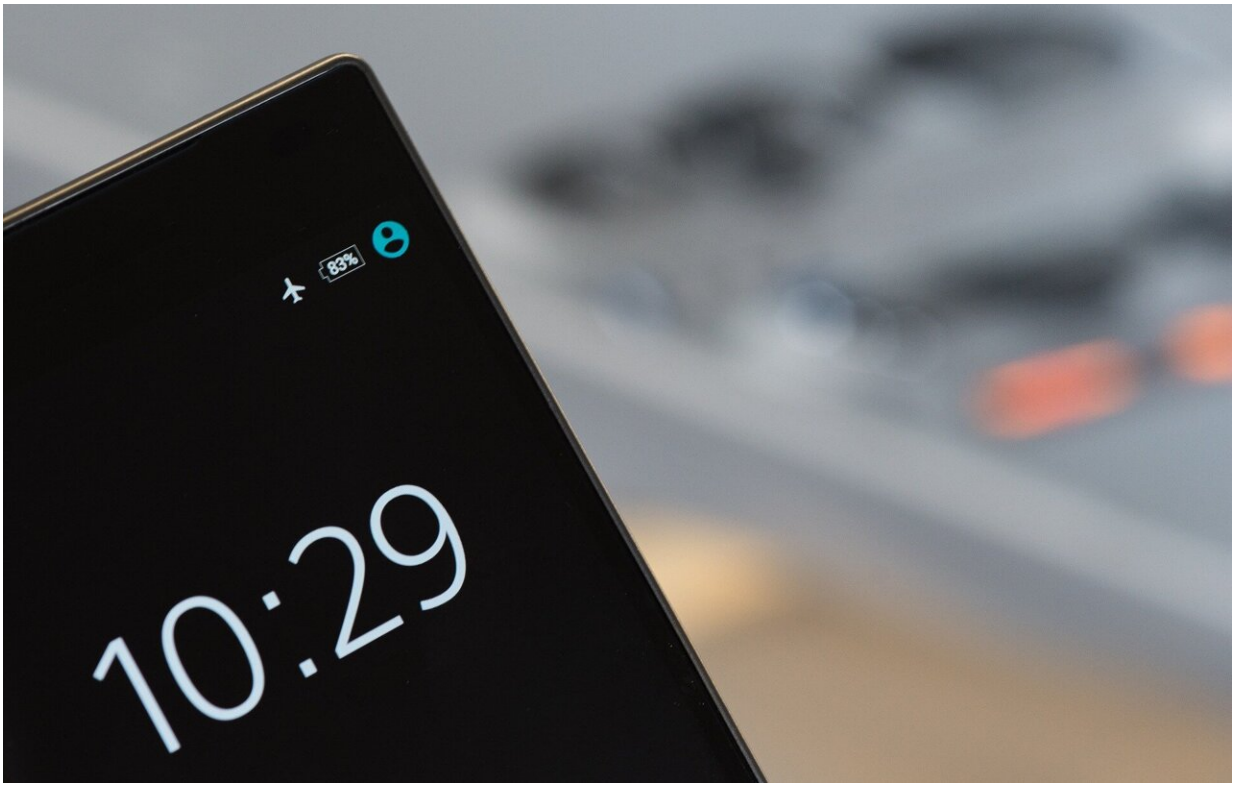

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When Gila Drazen flies, she typically forgets or otherwise neglects to put her phone in airplane mode.

"It's laziness. It's just plain, laziness," she told U.S. TODAY.

Drazen is hardly alone. Although it's not a well-studied question, a 2017 survey by Allianz Global Assistance found that about 40% of passengers said they left their cell service on while flying.

But Federal Aviation Administration regulations still require all passengers to use airplane mode while in the air. That's why an announcement is made on every flight.

"FAA regulations prohibit the use of certain portable electronic devices on aircraft unless the operator determined they won't interfere with navigation or communication systems," the agency said in a statement.

Though changes may be coming.

European regulators recently cleared the way for 5G-enabled mobile devices to keep their transmitters on during flights, and experts say it's likely that the U.S. will follow suit. But that doesn't mean everyone will be able to make calls from the air tomorrow. Not all cell service is created equal when it comes to airplane safety.

So, what is the big deal if you don't put your phone in airplane mode today, especially with a non-5G phone?

"My theory was always that it was a crowd control thing. In the same way that when they start talking about cellphone service in the subway, we all just kind of assumed that everybody would get on the phone and just be talking talking talking," Drazen said. "The question that I have is what my passive consumption of cellphone signal might do, you know?"

Why do I need to put my phone in airplane mode?

According to experts and the FAA, it's a matter of safety for yourself and your fellow passengers.

Shawn Pruchnicki, a professor at the Center for Aviation Studies at The Ohio State University, said the big issue is potential interference with an airplane's navigation systems.

"Where it really counts is upon landing, especially when we're doing an instrument landing," he said. "Those signals are very, very precise, and the autopilot flying those signals is also very, very precise. This is not the time when you want any variability at all, especially when you have terrain considerations."

As the FAA's statement above said, in order to let passengers use their cell service onboard, operators would have to prove that the devices wouldn't interfere with the plane's communication or navigation systems.

"There's no extensive testing that is done on all the different types of airplanes combined with all the different types of cellphones," Pruchnicki said. "There's a tremendous amount of different combinations here."

Plus, he said, at cruising altitude, most phones aren't powerful enough to connect to cell towers on the ground, but they drain your battery trying to link up anyway.

What's the worst that could happen?

In theory, electronic interference could cause a plane crash—though there's no proof that has ever happened.

"From an accident investigation perspective, we have no evidence whatsoever that this has caused an accident, but that doesn't mean that it can't be responsible for an accident or that it can't cause an accident," Pruchnicki said. "This is even more of an unknown because the newer aircraft that we have out there are even more sophisticated and are even

more automation-dependent."

Pruchnicki added that the Federal Communications Commission has found that cellphones that aren't in flight mode can overload the networks on the ground, especially during takeoff and landing as they try to connect to multiple towers at once.

How is airplane Wi-Fi different? And what about 5G?

Many airlines provide onboard internet access, and passengers can use their personal devices to access it, even while in airplane mode. Pruchnicki said onboard Wi-Fi systems don't present the same risks as cell networks do.

They operate at a lower strength and different frequencies than cellphones and flight instruments are less of an interference risk.

Similarly, 5G uses wavelengths that are less likely to interfere with airplane instruments than older-generation cell services.

"In principle, any wireless device may interfere with systems in the airplane such as the radio altimeter," said Eduardo Rojas-Nastrucci, an associate professor of electrical and computer engineering at Embry-Riddle Aeronautical University. "In the particular case for 5G, there are bands that are far enough in frequency from the frequencies the airplane uses that the risk is minimal."

Advice for travelers

Because the question hasn't been thoroughly studied and tested, most experts say it's just common sense to follow the FAA regulation.

"With no plans to investigate this with any level of certainty and because

it's pretty uncommon to be able to receive a signal above 10 or 15,000 feet, there's really no point in risking safety to change this restriction," Pruchnicki said. "With so many unknowns and lack of testing, why would you put the flight at risk just to advise your family that you're five minutes from landing?"

As 5G service becomes more common and the airline industry moves toward enabling cell phone use in flight, Rojas-Nastrucci said it's still a good idea for those with older-generation cell phones to keep using airplane mode, even if the risk is relatively low.

"If you're on a highway, if you have a car that's right next to you in the lane, there's a higher risk of interfering than if the car is 10 lanes away," he said, and added that the technology that enables 5G use onboard likely won't be compatible with older-generation receivers anyway.

Drazen, however, said she'll probably just keep forgetting to flip the switch.

"Is that going to change my behavior? Probably not," she said. "Will I feel guilty if the plane I'm on crashes? 100%. Am I willing to take that chance? I'm not sure."