

By Todd Shields

(Bloomberg) -- The Federal Communications Commission is investigating whether mobile devices in the US that receive and process signals from satellites controlled by foreign adversaries are violating federal rules.

It's not clear whether the practice poses a security threat, the FCC said in an emailed statement Thursday, disclosing the investigation that it described as "ongoing." The agency is looking into device makers including Apple Inc., Alphabet Inc.'s Google, Samsung Electronics Co. and Nokia Oyj in a probe that began several months ago, an agency official said on Thursday.

Mobile phones compare signals from satellites in order to determine the device's location — a technology pioneered by the US but joined in recent years by other countries. US companies use an American satellite fleet and, in 2018, won leeway to also use the European Union's constellation, known as Galileo. Russia and China also have constellations aloft, but their use hasn't been authorized by the FCC.

"There is no established record of what security threats, if any, these signals carry and whether the manufacturers of handheld devices are processing these signals in violation of the commission's rules," the FCC said.

The FCC is asking manufacturers whether their devices are in compliance with FCC rules and what vulnerabilities, if any, may exist in the way their products receive and process satellite signals.

Location can be pinpointed with higher accuracy if phones use more satellite signals, including those from foreign fleets,

according to satellite experts. Critical functions of the modern economy, from aviation to the energy grid and stock exchanges, rely on Global Navigation Satellite Systems, as does nearly everyone with a mobile phone. Location tracking is carried out by phone companies that have made a business of letting merchants know where customers are.

With the use of foreign signals, “position solutions are simply more accurate, especially in urban areas where the view of the sky is limited,” said Todd Humphreys, a professor of engineering at the University of Texas at Austin, in an email.

“Every Uber driver and passenger want to find each other easily; every delivery driver wants to ensure accurate localization too.”

While the FCC has approved Europe’s Galileo to receive and process signals from the US’s Global Positioning System, it has become aware that US mobile phones and other connected devices are receiving and processing signals from China’s BeiDou and Russia’s Glonass constellations, in possible violation of federal rules.

Representative Mike Gallagher, the Republican chairman of the House Select Committee on the Chinese Communist Party, is among those who have brought the situation to the agency’s attention. He noted “significant” evidence of Russia jamming of satellite signals in a March 11 letter to the FCC, and said such events “suggest it is critical that the FCC enforce its rules against using unauthorized signals from foreign satellites.”

One reason carriers and device manufacturers are using the unauthorized signals is because the US is lagging far behind in deploying and activating the next generation of GPS satellites,

Gallagher said. But he noted that the US could rely on the EU's Galileo without need to allow use of the Chinese and Russian signals.

FCC Chairwoman Jessica Rosenworcel confirmed the investigation in a brief remark at the agency's monthly meeting in Washington Thursday.

Several independent experts said taking in signals from more satellites poses little risk. Rather, it offers improved accuracy that comes with calculations involving multiple satellites. Phones generally are smart enough to disregard spurious signals, reducing the risk a malicious spoof in a constellation could misdirect users.

The FCC has been aware of the concern for years. Using foreign satellite signals is "an uncomfortable truth," Rosenworcel said in 2018. "Technology has gotten ahead of our approval policies," she said at the time.

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