

# TOP 10 MYTHS VS. FACTS AROUND THE FCC'S APPROVAL OF LIGADO NETWORKS APPLICATION

## #1 Myth: The Order does not adequately protect GPS operations from harmful interference.

**FACT:** After reviewing all of the data in its record, including that relied on by the DoD, the FCC concluded that Ligado's use of its licensed spectrum would not cause harmful interference to GPS. The Order imposes stringent conditions on Ligado to ensure those protections: (1) establishes 23 MHz GPS-protecting guard band; (2) lowers terrestrial power levels in the downlink bands to a FAA-recommended level, a power limit that is 99% lower than that which was agreed upon by major GPS manufacturers such as Deere and Garmin; (3) while any impact is unlikely given the maximum power level is equivalent to the energy of a 10-watt light bulb, requires the company to work with the federal government and assume costs to repair and replace legacy equipment if necessary; (4) requires pre-deployment coordination, including notifying government and private-sector stakeholders where and when it plans to build out and turn on the network; and (5) requires Ligado to maintain an emergency shut-off switch that can be turned on/off right away.

## #2 Myth: The guard band is not big enough.

**FACT:** The 23 megahertz guard band between Ligado's terrestrial operations and the GPS band is one of the largest guard bands ever created; guard bands are typically 2-5 MHz.

## #3 Myth: The NASCTN test was not conducted in a transparent manner and should not be relied on because it was funded by Ligado.

**FACT:** The mission of the National Advanced Spectrum and Communications Test Network ("NASCTN"), administered with the oversight of DoD and the Commerce Department, is to provide scientific and unbiased analyses on spectrum matters. The NASCTN study and its 1476 test-hours were performed at the request and direction of senior personnel in the office of the DoD Chief Information Officer, with DoD personnel involved in all aspects of the tests from beginning to end. The tests were conducted under a U.S. Government Cooperative Research and Development Agreement (CRADA) defined as a "formal written agreement between one or more Federal laboratories and one or more non-Federal parties... toward the conduct of specified research or development efforts that are consistent with the missions of the bureau." The test plan was designed independently by NIST, published, and widely reviewed by spectrum regulators, federal agencies, GPS manufacturers, and the general public. It's worth noting that the Department of Commerce awarded the NASCTN study the Gold Medal Award in 2017 – the highest award for extraordinary and prestigious contributions.

## #4 Myth: The federal government unanimously is opposed to the FCC Order.

**FACT:** All five FCC Commissioners voted to approve the Order. The Department of State and Department of Justice both issued statements supporting the FCC Order, as did bipartisan members of Congress and leading experts and academics within the technology-policy community.

**#5 Myth: This was a rushed process and the FCC made this decision without informing anybody – over the weekend, under the veil of darkness.**

**FACT:** This proceeding has been open for 17 years. The FCC record and Order reflect years of diligent scientific work and consultation with federal agencies, including the Pentagon. All federal agencies have had four years to review and provide feedback on Ligado's proposal; they were also provided with a draft of the FCC's Order over seven months ago, in October of 2019. In those seven months, no federal agency, including the DoD, provided any new technical data for the FCC to consider. The FCC also provided the NTIA and the DoD more than a week of advance notice before it circulated the final Order.

**#6 Myth: The FCC Order forces soldiers who can't get their GPS devices to work in the middle of a warzone to call a 1-800 number to report interference from Ligado's network.**

**FACT:** Ligado is a U.S.-based company and it is not licensed to operate its network overseas– so any and every suggestion that the company could interfere with any operation at sea or elsewhere around the world is just wrong.

**#7 Myth: 1 dB is the global standard of harmful interference for GPS devices.**

**FACT:** 1 dB is not a standard –used in this context in either the U.S. or internationally – and the FCC confirmed 1 dB had no legal or scientific standing to be applied as a standard for harmful interference in its Order. Moreover, data from the comprehensive NASCTN tests show that different makes and models of GPS devices detect, measure, and report a 1 dB change differently. This fact makes 1 dB entirely unworkable and unreliable as a standard measure. Thus, it is inaccurate to refer to 1 dB as a global standard.

**#8 Myth: The U.S. government and taxpayers will bear the burden for replacing any legacy devices.**

**FACT:** To the extent there is a need to replace any federal government device, the burden rests with Ligado.

**#9 Myth: The Ligado spectrum has nothing to do with, 5G, and competing with China in 5G.**

**FACT:** The two primary competitors to China's Huawei and ZTE in 5G infrastructure, Nokia and Ericsson, have demonstrated on the record that Ligado's spectrum can support and enhance the deployment of 5G services here in the U.S. They are working with Ligado to support 5G services with features that could improve coverage, capacity, inter-network operability, and lower latency. Nokia studied Ligado's proposed use of its spectrum as deployed in the FCC Order and found that the "combined use of spectrum in the lower mid-band and higher mid-band categories offers significant economic and operational advantages for 5G as compared to higher mid-band only alternatives." Ericsson found that using Ligado's spectrum as deployed in the FCC Order in conjunction with higher-band spectrum would deliver "user experience benefits and performance improvements for 5G as compared to a higher mid-band only deployments."

**#10 Myth: Ligado spectrum is federal spectrum.**

**FACT:** Ligado spectrum is commercially licensed spectrum; Ligado has had a license to operate its satellite network for three decades and a ground-based terrestrial service since 2004.