STATEMENT FOR THE RECORD
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SUBMITTED TO THE

House Committee on Transportation and Infrastructure
Subcommittee on Aviation

"Finding the Right Frequency: 5G Deployment & Aviation Safety"

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On behalf of the National Business Aviation Association (NBAA), thank you for holding this hearing to discuss critical aviation safety concerns related to 5G telecommunications networks operating from 3.7-3.98 gigahertz (GHz), a commonly referred to as the C-band. NBAA represents more than 11,000 member companies and professionals that rely on general aviation aircraft for business purposes. Like commercial airlines, general aviation operators also rely on radio altimeters for various safety-critical functions, including low-visibility operations and other onboard safety systems. Beginning in 2015, NBAA and a broad coalition of aviation stakeholders raised detailed safety concerns about the potential for 5G interference with radio altimeters. We appreciate the Subcommittee's continued attention to this important matter.

NBAA members operate at thousands of airports across the nation, many of which are not served by commercial airlines. For example, general aviation aircraft deliver organs for transplant, perform air medical flights, assist in the aftermath of natural disasters and deliver critical supplies related to the COVID-19 pandemic. The United States general aviation industry, including business aviation, supports 1.2 million jobs and $247 billion in economic output.

Radio altimeters are crucial for many general aviation missions, especially for low-visibility landings and helicopter operations. Also, radio altimeter data on the precise distance of the aircraft from the ground is integrated into other safety-critical flight control and warning systems needed for all phases of flight. This integrated nature of aircraft avionics systems means that simply replacing the radio altimeter is not an option or is prohibitively expensive. Potential radio altimeter replacement costs are of specific concern to general aviation aircraft operators since 85% are small and mid-sized businesses.

With the significant benefits that 5G technology will provide for connectivity across the nation, NBAA believes these networks must safely co-exist with aviation. Achieving these benefits and preserving aviation safety requires enhanced interagency collaboration between the Federal Aviation Administration (FAA), the Federal Communications Commission (FCC), and other government stakeholders. In 2019, the aviation industry formally expressed concerns to the FCC about the implementation of 5G networks and conducted a study using the best available information at that time, which identified issues with radio altimeter interference. During this time, the aviation industry has been open to working with the FCC, FAA, and other agencies to advance the discussion on these issues.

Unfortunately, since the December 2020 auction of the 5G-C spectrum, the required levels of coordination did not occur. This lack of coordination meant that as the rollout of 5G networks approached this year, we were in a reactive position because the necessary proactive coordination had not occurred. We applaud the FAA's dedicated work to quickly issue Airworthiness Directives, Notices to Air Missions (NOTAMs), and other guidance on the impact of 5G networks. Still, the reactive nature of these efforts created significant challenges and uncertainty for general aviation operators.

Following the activation of 5G networks, the FAA is to be commended for its work to approve Alternative Methods of Compliance (AMOCs) that allow most commercial air carrier aircraft to operate safely at airports where there is potential for 5G interference. However, the FAA has only issued limited mitigations for business aircraft and helicopters to date. Without approved AMOCs or other relief, these aircraft continue to be prohibited from conducting low-visibility approaches and are subject to other flight restrictions in all 5G deployment areas, which will expand across the country. We respectfully request that the FAA dedicate the necessary resources to approve Letters of Acceptance for data

submittals by altimeter manufacturers and supporting AMOCs, where appropriate, for general aviation aircraft and helicopters.

With the current AMOC process, the FAA must re-issue each approval every 30 days, which requires significant agency resources. As new 5G towers come online, the FAA must review the data to determine if existing AMOCs still maintain an adequate level of safety or if modifications are necessary. This process of reviewing data and analyzing AMOCs for the commercial air carrier fleet means that FAA resources are often not available for general aviation aircraft operators and manufacturers. If the telecom providers could share data on tower locations and deployment plans with the FAA as soon as it becomes available, the agency could manage the AMOC process more proactively and dedicate additional resources to general aviation operators.

As the 5G rollout continues across the country, the FAA will face a growing workload to review and re-issue AMOCs each month. By working collaboratively with the FCC, telecom providers, and other stakeholders, the FAA could have better visibility into future 5G impacts. For example, data sharing between the FAA and telecom providers in as close to real-time as possible would allow the FAA to perform a more forward-looking analysis and could mitigate the need to re-issue AMOCs every 30 days. The general aviation community looks forward to working with the FAA on an improved process so we can continue accessing airports across the nation and performing our critical missions.

The dynamic and on-demand nature of business aviation operations also means that receiving NOTAMs on 5G restrictions with relatively little notice presents significant challenges. Unlike commercial airlines, most business aviation flights do not operate on a fixed route between the same airports. NBAA members can access more than 5,000 public-use airports in the U.S., requiring additional detailed flight planning before each trip. The requirement to operate to such a diverse group of airports is another reason that enhanced data sharing and more lead time on subsequent phases of the 5G rollout will be essential to the general aviation community.

Finally, we will continue to see rapid advancements in aviation and telecommunications technology that will present additional wireless spectrum challenges in the coming years. For example, advanced air mobility (AAM) aircraft are currently undergoing FAA certification review and will have unique spectrum requirements for safe operation. Long-term plans from AAM operators include autonomous vehicle operation, which will have different spectrum needs and safety considerations from piloted aircraft. Groups including RTCA, Inc. are already reviewing these complex issues, which will require more of our focus in the coming years. We encourage robust interagency coordination on future spectrum use and potential challenges involving all relevant government agencies, including the FCC and industry stakeholders.

This hearing is an important opportunity to review the next steps on the 5G rollout and identify key lessons learned. We applaud the commitment of this Subcommittee and the FAA for their continued efforts to ensure the highest level of aviation safety. NBAA looks forward to working with the Aviation Subcommittee, FAA, and other agencies as we continue developing strategies to co-exist safely with next-generation wireless networks.