

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of

Delete, Delete, Delete

GN Docket No. 25-133

**COMMENTS OF UWB ALLIANCE, PROFIBUS & PROFINET INTERNATIONAL /
OMLOX, CAR CONNECTIVITY CONSORTIUM, FIRA CONSORTIUM, AND ALLIANCE
FOR AUTOMOTIVE INNOVATION**

I. INTRODUCTION

The UWB Alliance, Profibus & Profinet International / omlox, Car Connectivity Consortium, FiRa Consortium, and Alliance for Automotive Innovation¹ respectfully submit these comments in response to the Public Notice in the above-captioned proceeding.

¹ The UWB Alliance was founded in 2018 to promote UWB technologies. The UWB Alliance's mission is to, among other things, advance effective coexistence strategies for UWB bands with evolving regulations, increase the utility of UWB globally through the expansion and adoption of UWB standards, and promote end-to-end vendor agnostic interoperability built on new and current industry standards. The UWB Alliance counts among its members semiconductor manufacturers, industrial real-time location system companies, electronics companies (including smartphone manufacturers), and automotive companies. Some of the largest players in the UWB space are members of the UWB Alliance – all of whom are dedicated to developing and providing advanced UWB technologies, products, and services that will enhance and benefit the public.

Omlox is the world's first interoperable open locating standard which implements multi-purpose real-time locating solutions in a professional installation that may use products from different manufacturers who applied to the standard. Various locating technologies (ex. UWB, Wi-Fi, GPS, 5G, RFID, and BLE) and various vendors for each technology can be easily accommodated, all for the first time, creating a holistic map of the whole smart factory. The term "omlox" is derived from the Latin terms "omni" = omnipresent and "locus" = location. Omlox is part of Profibus & Profinet International, with 1,400 member companies and about 4,000 different products.

A number of specific provisions in Part 15 of the Commission’s rules that apply to ultrawideband (“UWB”) technologies are outdated and unduly restrictive,² and hinder innovation and market growth of UWB-enabled devices. UWB technology plays an increasingly critical role in applications used for personal and public safety applications, logistics, and day-to-day convenience. However, restrictions on UWB, established over 20 years ago, no longer reflect advances in UWB technology or current marketplace use cases. The rules do not consider UWB’s now proven ability to coexist interference-free as a “good neighbor technology” with both Federal incumbents and other unlicensed wireless services, ensuring reliable performance, security, and cost-effectiveness.

Car Connectivity Consortium (“CCC”) is a cross-industry standards organization with a mission to standardize the connected ecosystem around vehicles and devices with solutions that combine convenience, security, and privacy protections. The CCC member companies consisting of smartphone and vehicle manufacturers, automotive tier-1 suppliers, silicon/chip vendors, security product suppliers, and more. The Board of Directors of CCC includes individuals from charter member companies Apple, BMW, Denso, Ford Motor Co., General Motors, Google, Honda, Hyundai, Mercedes-Benz AG, NXP B.V., Panasonic, Samsung, Thales, Volkswagen and Xaiomi.

The FiRa Consortium is a UWB stakeholder group that works with industry leaders to develop use cases based on UWB secured fine ranging (“FiRa”) technologies. FiRa defines specifications for UWB technology and certifies products in order to ensure interoperability between devices and works to foster a robust UWB ecosystem to enable the more rapid deployment of UWB technology. FiRa represents stakeholders from a wide range of relevant industry areas, including chip manufacturers, device manufacturers, system integrators, service providers, technology providers, test tool developers, test labs, and educational institutions with a vested interest in the success of UWB technology.

Alliance for Automotive Innovation represents the full automotive industry, including the manufacturers producing most vehicles sold in the U.S., equipment suppliers, battery producers, semiconductor makers, technology companies, and autonomous vehicle developers. Our mission is to work with policymakers to realize a cleaner, safer, and smarter transportation future and to ensure a health and competitive automotive industry that supports U.S. economic and national security. Representing approximately 5 percent of the country’s GDP, responsible for supporting nearly 10 million jobs, and driving over \$1 trillion in annual economic activity, the automotive industry is the nation’s largest manufacturing sector.

² The specific changes that should be made to Rules 15.503, 15.517, 15.519, and 15.521 are detailed below. *See infra* at 5-6.

Eliminating or modernizing these unnecessarily restrictive rules would reduce costs for industry while yielding significant public interest benefits, reducing administrative inefficiencies, and simplifying regulatory processes to the benefit of American consumers, the U.S. economy, and U.S. global leadership in wireless technologies. Such changes would also address the stated objectives of the Public Notice in lowering costs, accelerating implementation, promoting technological advancements, and easing regulatory barriers to market entry.³

II. MODERNIZING THE UWB RULES WILL SUPPORT THE CONTINUED GROWTH AND INNOVATION OF UWB TECHNOLOGY.

The market for UWB-enabled technologies is growing substantially with sales expected to surpass 1 billion units this year.⁴ UWB capabilities are incorporated into a growing number of consumer devices, including laptops, smartphones, tablets, location tags, and wireless audio devices. UWB also plays a crucial role in enhancing public health and safety by powering through-wall imaging devices for firefighters, vehicle safety features to detect children left in cars, and secure car key fob systems to reduce auto theft. High dynamic range audio applications where simultaneous, interference-free, high-fidelity transmissions are essential, such as wireless microphone systems used in stage productions, also leverage UWB technologies. UWB also plays a role in the broader wireless ecosystem. While LTE and 5G provide wide-area high-speed data communication and low-precision tracking, they are not ideal for ultra-fast, high-bandwidth file transfers over short distances, such as transferring a 4K video from a smartphone. When paired with UWB, Wi-Fi can handle these transfers more efficiently.

³ See *In re Delete, Delete, Delete*, GN Docket No. 25-133, Public Notice, DA 25-219 (rel. Mar. 12, 2025).

⁴ See Ultra-Wideband (UWB) for the IoT-A Fine Ranging Revolution?, ABI Research, at 1 (June 2021), <https://www.allaboutcircuits.com/uploads/articles/UWBWP.pdf>.

Figure 1: Optimized Technology Choices for High Volume Applications

	UWB	4G-LTE 5G	Wi-Fi	Bluetooth BLE	NFC	GPS
Wide Area Broadband Data Communications		✓				
Low Precision Wide Area Locating and Tracking		✓				
Wide Area Outdoor Locating and Tracking (4.5 m)						✓
Short-Range Broadband Data Communications			✓			
Short-Range High-Speed Data Communications	✓			✓		
Very Short Range (Near Field) Data Communications					✓	
High Precision Secure Locating and Tracking (1 cm)	✓					
High Dynamic Range (HDR), Low Latency Audio	✓					

The UWB ecosystem has grown despite the current Part 15 rules that limit its potential by requiring parties to seek regulatory waivers for approval of new innovations. As the ecosystem has grown, UWB technologies have proven to be good neighbors. UWB offers a wide range of benefits to consumers without causing interference to other users, even when the FCC grants waivers of the existing, overly restrictive rules. And because these rules are unnecessarily conservative and were not drafted with an understanding of modern UWB use cases, the Commission routinely does grant waivers—but the waiver process is time-consuming, costly, and inefficient, often straining startups’ finances and discouraging investment in research and development, while at the same time burdening Commission staff and resources. The problem is exacerbated by the fact that, while many requests for regulatory relief have substantially similar fact patterns or technical parameters, the waiver review process begins anew with the filing of each application, despite the absence of harmful interference from existing deployments. Updating Part 15 rules would eliminate burdens generated by the current waiver regime, thereby accelerating deployment of new UWB technologies in furtherance of the public interest.

Modernizing the rules would also promote U.S. competitiveness in the global market for wireless technologies. While the U.S. has not made significant revisions its UWB rules in two decades, the European Union (“EU”) has adopted new regulations for more flexible operation of UWB devices, especially with regard to fixed outdoor transmissions and indoor power limitations.⁵

Aligning the Commission’s UWB rules with those of its EU counterparts would eliminate a performance disadvantage for U.S.-based equipment and reduce manufacturing complexities, leading to new innovations being available to consumers more quickly at lower cost.

In particular, the following changes to Part 15 should be considered by the Commission:

Rule Section	Proposed Deletion/Change
15.503(d)	Delete the phrase “at any point in time” from Rule 15.503(d), the definition of “UWB transmitter”. Doing so would allow for operation of UWB devices that pose no significant interference risk, as determined by the Commission in multiple waivers. ⁶
15.503(d)	Modify Rule 15.503(d) to reduce the “UWB bandwidth equal to or greater than 500 MHz” to 50 MHz. This would eliminate the need to always meet the minimum of 500 MHz even if technically not needed. This change leads to increased spectrum efficiency and aligns with the definition in other countries (e.g., the EU)
15.503(m)	Delete restrictions on fixed outdoor infrastructure below 10 m in Rule 15.503(m) by changing heading to “Generic” and modifying definition. Despite billions of devices operating outdoors on smartphones, there is no evidence of interference. This would allow fixed outdoor devices which would eliminate current EU advantage. Mobility is not a requirement for noninterference.

⁵ New proposed EU regulations can be found in the approved European Commission decision from May 2024 introducing the UWB rule changes. See Commission Implementing Decision 2024/1467 (May 27, 2024), https://eur-lex.europa.eu/eli/dec_impl/2024/1467/oj.

⁶ See *In the Matter of Robert Bosch LLC Request for Waiver of Sections 15.503(d), 15.503(h), and 15.521(d) of the Commission’s Rules*, Order, 37 FCC Rcd 21 (2022) (granting waiver request); see also *In the Matter of Schlage Lock Company LLC’s Request for Waiver of Section 15.519(a) and 15.519(a)(2) of the Commission’s Rules*, Order, 38 FCC Rcd 4890 (2023) (granting waiver request); *In the Matter of Assa Abloy Group for Waiver of 15.519(a), and 15.519(a)(2) of the Commission’s Rules Applicable to Ultra-Wideband Devices*, Order, 37 FCC Rcd 12311 (2022) (granting waiver request).

Rule Section	Proposed Deletion/Change
15.517	Decrease the restriction on indoor power to -31.3 dBm/MHz for 3100-10600 MHz frequency band in Rule 15.517. This would create parity with EU regulations while posing minimal risk of harmful interference.
15.519	Update title of Rule 15.519 to “Generic” and modify provisions to not require “hand held”. As above, the absence of any interference with billions of devices in use proves that a requirement for mobility is superfluous.
15.519	Delete the requirement in Rule 15.519 that UWB devices receive acknowledgement from associated receivers within 10 seconds of the initial transmission and then every 10 seconds to continue transmitting. This disallows low cost unidirectional TDOA locating systems and should be eliminated. An alternative to this rule would allow UWB devices to transmit unacknowledged messages with a maximum of 10% duty cycle measured over one second.
15.521(a)	Delete the prohibition of the use of UWB technology in toys in Rule 15.521(a). Toys increasingly use wireless technologies like Bluetooth and Wi-Fi. UWB poses less interference risk and UWB is widely adopted in devices like smartphones. Thus, the distinction between toys and personal devices has blurred. Continuing the ban serves little purpose and only increases waiver requests.
15.521(a)	Delete the prohibition against the use of UWB onboard aircraft and ships in Rule 15.521(a), as the low power levels at which UWB devices transmit poses no risk of harmful interference.

III. CONCLUSION

Updates to Part 15 rules applicable to UWB that reflect modern technical and operational realities would yield meaningful public interest benefits and administrative efficiencies to the benefit of American consumers, the U.S. economy, and U.S. global leadership in wireless technologies. Such changes could be made without any increased risk of harmful interference. The Commission should act expeditiously in response to the Public Notice to begin the process of lowering costs, accelerating deployments of UWB technological advancements, and easing regulatory barriers to market entry.

Respectfully submitted,

/s/
Ultra-Wideband Alliance

/s/
FiRa Consortium

/s/
PROFIBUS & PROFINET International/ omlox

/s/
Car Connectivity Consortium

/s/
Alliance for Automotive Innovation

Date: April 11, 2025