

December 15, 2025

Via Experimental Licensing System

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
45 L Street NE
Washington, DC 20554

Attn: Office of Engineering & Technology, Electromagnetic Compatibility Division

**Re: Response to Informal Objection of Comcast Corporation; ELS
File No. 0856-EX-CR-2025**

Dear Ms. Dortch:

FalconION, Inc. (“FalconION”) hereby responds to the Informal Objection filed on December 5, 2025, by Comcast Corporation (“Comcast”), in opposition to FalconION’s application for the renewal of its experimental license WM2XHW (the “Experimental License”).¹ For the reasons discussed below, the Office of Engineering and Technology (“OET”) should dismiss Comcast’s objection and grant FalconION’s renewal request without delay.² FalconION is using the Experimental License to develop innovative techniques in the otherwise underutilized high frequency (“HF”) bands, and these experiments should be allowed to continue.

Noticeably missing from Comcast’s Informal Objection is any assertion of harmful interference to an authorized wireless use of the radio spectrum, whether licensed or unlicensed.³ Comcast’s objection instead rests solely on the assertion that poorly shielded splitters and other

¹ Letter from Michael Lazarus, Telecommunications Law Professionals PLLC, Counsel to Comcast Corporation, to Marlene H. Dortch, Secretary, FCC, *Informal Objection; ELS File No. 0856-EX-CR-2025* (Dec. 5, 2025) (“Comcast Informal Objection”); Application to Renew Experimental License WM2XHW, ELS File No. 0856-EX-CR-2025 (filed Dec. 4, 2025), supplemented with narrative exhibit on Dec. 9, 2025.

² To FalconION’s knowledge, Comcast did not provide service of its Informal Objection.

³ Comcast claims that it is “authorized by the Commission to operate at various frequencies between 2 and 25 MHz.” Comcast Informal Objection at 5. However, to FalconION’s knowledge, Comcast has never received any sort of license from the Commission to conduct wireless operations in this band, nor do the Commission’s rules authorize cable operators to transmit wireless services in this band on an unlicensed basis. Comcast appears to be attempting to bootstrap technical standards that concern use of spectrum in a closed, wired system into a right to protection from interference from wireless services. This is not, however, the law.

equipment connected to its *wired* network are designed to receive signals on some of the same frequencies on which the Experimental License authorizes FalconION to transmit. Given that Comcast's entire Objection is premised on the notion that unshielded cabling merits protection from valid wireless transmissions, the Commission should dismiss it and grant FalconION's request to renew its experimental license without delay.

FalconION also emphasizes—as it has done on many occasions in conversations with representatives of Comcast—that it remains ready, willing, and able to find a productive solution to Comcast's concerns. Comcast, however, should not be allowed to have a veto on experimental wireless use of HF spectrum in the meantime.

I. Comcast asks the Commission to end experimental use of spectrum to protect unshielded and outdated equipment.

Comcast does not deny that the “harmful interference” it alleges concerns transmissions that occur inside coaxial cables, which are intended to be part of a closed network. This can and should be the end of the inquiry. For a wired system such as Comcast's, the Commission does not recognize *any* right of protection to interference from authorized wireless transmissions, whether those transmissions are made on a licensed (as in the case of FalconION's experimental transmissions) or unlicensed basis—let alone protection for the use of spectrum *inside* a sheathed cable.

Specifically, Comcast argues that its “plant and equipment are adequately shielded to protect against outside interference consistent with Commission rules,” but that FalconION's transmissions “ingress into the cable network through customer-purchased equipment.”⁴ Comcast states that FalconION's transmissions “then travel from the customer's home to the network mode, disrupting service to customers on that node.”⁵ Comcast then acknowledges that this in-building equipment is “more susceptible to ingress” from co-channel, authorized wireless transmissions.⁶

Comcast notably makes no mention of its responsibility under section 76.617 of the Commission's rules to handle interference that results from the use of “cable system terminal equipment,” which includes the “subscriber terminal,” and leakage that causes interference outside the subscriber's premises.⁷ Comcast claims that it has no immediate control over situations that arise “inside customer homes, where customers may have purchased their own endpoint hardware, and are responsible for their own inside wiring, including connectors and splitters.”⁸ But the Commission's rules mandate that Comcast is responsible for handling such

⁴ Comcast Informal Objection at 2. Comcast's Informal Objection provides no support for the assertion that its plant and equipment are perfectly maintained.

⁵ *Id.*

⁶ *Id.*

⁷ 47 C.F.R. § 76.617.

⁸ Comcast Informal Objection at 3.

situations. Comcast should not be allowed to dictate licensed (including licensed experimental) or unlicensed use of the radio spectrum when it refuses to meet its own obligations under the Commission's rules.

II. FalconION has worked cooperatively with Comcast to address its concerns.

Even after becoming aware that Comcast's claims relate solely to unshielded, wired equipment, FalconION has repeatedly sought to accommodate Comcast's demands.⁹ Comcast, however, has steadfastly maintained that the solution is to terminate FalconION's wireless experiments and declare underutilized spectrum to be "off limits" to innovation.

As part of these discussions, FalconION has proposed a number of solutions to Comcast, including that Comcast make updated wired equipment (*e.g.*, splitters, cables) available to impacted subscribers. While Comcast apparently has installed some filters in some locations *outside* customer premises, there is no evidence that Comcast has offered new splitters, coaxial cables, or other equipment to any customer. At one point, Comcast suggested that *FalconION* should pay such costs. FalconION should not be forced to choose between continuing experimental use of underutilized spectrum and paying Comcast to upgrade outdated, wired equipment that Comcast has a regulatory obligation to maintain in any event.

In short, Comcast would rather that the Commission halt technological progress in spectrum utilization that could have significant benefits throughout the country than take the necessary steps to improve the problem areas in its own cable network, as the Commission's rules require it to do. Comcast's position represents abysmal spectrum policy, which is disappointing coming from a Fortune 100 company that otherwise has sought to open other bands of spectrum (*e.g.*, 6 GHz) to new wireless uses.

III. FalconION's experimental license enables it to conduct beneficial experiments.

As described in FalconION's application for renewal, the Experimental License has enabled FalconION to develop and refine radio techniques for delivering short digital messages over long distances using frequencies in the HF band. FalconION seeks renewal for a two-year term so that it can continue gathering statistical data concerning the performance characteristics of its radio techniques in various technical configurations and operating conditions. FalconION does not seek any modifications to its license—simply a renewal of its operations under the existing parameters for two more years. FalconION firmly believes that the work it is doing to develop and refine techniques for transmission in the HF band will lead to the efficient use of spectrum and serve the public interest, convenience, and necessity.

FalconION's transmitter works in tandem with a receiver to receive signals on one frequency and transmit on another. Over the years, FalconION has accumulated extensive

⁹ FalconION notes that it has not received outreach from any other entity claiming that it has experienced harmful interference in the areas around FalconION's transmitters—further indicating that the problem lies with Comcast's equipment.

experimental data on repeater performance at various frequencies and in various propagation conditions, with the goal of developing optimal signal processing algorithms that maintain the desired connection quality while minimizing the delay in useful data passing through the repeater. FalconION has developed specific modulation and coding methods to minimize data processing delays for signals having different basebands (10, 20, and 40 kHz).

FalconION requests this extension of its experimental license to continue its work in the field of radio communications. FalconION's goals for its future experiments include the following:

- Optimization of signal coding and packetization methods for coupling a two-hop shortwave radio link with modern microwave links operating in low-latency mode and without a forward error correction;
- Use of a digital beamforming radio receiver to minimize interference from a local transmitter while maintaining the required azimuth and elevation angle of the beamforming pattern; and
- A study of optimal power combining for two amplifiers in a radio transmitter operating on a single antenna and improving the performance of the optimal combining algorithm during frequency changing in accordance with propagation conditions.

Conclusion

In light of the above, FalconION respectfully requests that OET grant the pending application for renewal of its Experimental License.

Please direct any questions regarding this response to the undersigned.

Respectfully submitted,

/s/ David O'Neil

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