

Narrative Statement Milachi Media, LLC

Request for Part 5 Experimental Authority

Milachi Media, LLC (“Milachi”), licensee of low power digital television station WWOO-LD, Channel 28, licensed to Westmoreland, New Hampshire (Facility No. 186685), and pursuant to the Commission’s Part 5 Experimental Radio Service rules, hereby respectfully requests approval for experimental special temporary authority (“STA”) to utilize WWOO-LD to conduct testing of a new 5G-based radio service, provided by XGEN Networks LLC (“XGEN”), intended to ultimately be received by the members of the public on their smartphones and tablets, while maintaining television broadcasting (“5G Broadcast”). Milachi, XGEN and their partners, which include some of the largest telecommunications companies in the world, are convinced that the new 5G Broadcast technology can work in tandem with ATSC 3.0, as the United States continues to provide leadership in uses of the broadcast spectrum for advanced services.

As the Commission is aware, there is significant appetite for 5G spectrum in the United States, as the number of connected devices continues to grow at a rapid pace, driven by the proliferation of smartphones, tablets, laptops, Internet of Things devices, etc. There also has been a substantial increase in data consumption, as more and more users stream videos and download large files. Indeed, 76 percent of people aged 18-34 use their smartphones to watch online video content on a weekly basis.¹ In addition, autonomous vehicles, smart cities, advanced healthcare systems and, perhaps most importantly, first responders, need substantial swaths of spectrum. In short, the demand is increasing, with no end in sight.

Under the new 5G Broadcast technology, Milachi, XGEN and their partner telecomm companies envision a highly-efficient use of spectrum resources and the simultaneous (and very speedy) delivery of content to multiple users, all with the potential to reduce congestion on the presently-overworked network. For example, using 5G Broadcast, emergency alerts would be received by members of the public on their smartphones or tablets – as well as their traditional televisions – in less than one second (as opposed to between 30 seconds to 3 minutes on a cell phone or 15 seconds by FM radio).

While the 5G Broadcast technology is being developed and tested, Milachi will provide legacy digital television programming on WWOO-LD, while at the same time working directly with first responders and distance learning companies using Internet protocol. Milachi, XGEN and their partners also are investigating using 5G Broadcast to deploy new services, such as immersive media experiences, virtual and alternative realities, plus connected motor vehicles, and faster software updates. Indeed, 5G Broadcast has the potential to transform the way content services are delivered, without compromising existing mobile cellular communications.

Other countries around the world, including South Korea, Colombia, China, Germany and the United Kingdom already have conducted substantial 5G Broadcast trials. And Brazil, India, Japan, Sweden, and Australia also have conducted trials, but on a more limited basis. Indeed,

¹ See <https://www.statista.com/statistics/605628/frequency-video-services-used-by-smarphphone-users-united-states/#:~:text=According%20to%20an%20October%202022,devices%20for%20the%20same%20activity>

Milachi, XGEN and their business associates (including Qualcomm) have helped push for the inclusion by the 3rd Generation Partnership Project (known as “3GPP”) of Band 108 (the UHF broadcast band) as part of the new standards being devised for release later in 2023 (known as R17/18). This is an exciting development which means, for the first time, broadcasters will be able to deliver signals to cell phones and tablets.

Testing in other countries has shown that 5G Broadcast not only can deliver signals to cell phones and tablets, but also in a format that works with other IP delivery services and to televisions. Qualcomm recently has informed Milachi and XGEN that it has been able to test a modified smartphone in laboratory conditions in the U.S. Those tests reveal that such modified smartphone can receive 5G Broadcast frequencies in the TV spectrum band. Qualcomm believes that it will be able to provide a smartphone prototype to Milachi in the near term, for purposes of conducting field tests consistent with the parameters set forth in this Request for Experimental STA.

Station WWOO-LD presents the ideal medium to conduct a 5G Broadcast trial in the United States. The station operates from One Beacon Street in Boston, Massachusetts, meaning it reaches millions of viewers already. Presently, WWOO-LD provides programming to the public on two digital streams: “diginets” AntennaTV and NewsNet. While testing pursuant to this STA is underway, the AntennaTV programming will shift over to a digital stream on Milachi’s sister station, WVCC-LD, Channel 6, also licensed to Westmoreland, New Hampshire. (WVCC-LD already broadcasts NewsNet on another of its digital streams). Because the coverage area of WVCC-LD is significantly larger than that of WWOO-LD, while testing of 5G Broadcast on WWOO-LD is ongoing, no current viewer of AntennaTV will experience any loss in service.

From a technical perspective, as set forth in the attached Engineering Statement of Communications Technologies, this proposal fully complies with the Commission’s relevant technical rules, and will not adversely affect the operations of any other DTV facility. Indeed, this request for STA does not request any change to WWOO-LD’s frequency (it would remain on Channel 28), no change in WWOO-LD’s directional antenna pattern, no change in WWOO-LD’s effective radiated power (15 kW), no change in WWOO-LD’s current transmission line and antenna, and only a modest change to the current transmitter. During the testing period, WWOO-LD will continue broadcasting, with programming other than Antenna TV.

During the testing period, Milachi plans to provide digital television programming to viewers, as it works with local first responders and distance learning companies in Boston. Milachi, XGEN and their partners believe that 5G Broadcast will serve as a companion service to ATSC 3.0. Furthermore, WWOO-LD (operating with 5G Broadcast technology) can be evaluated in conjunction with WCRN-LD, which operates in ATSC 3.0.

Getting started on the testing of the 5G Broadcast technology is important, as the sooner the technology can be deployed in markets nationwide, the sooner that the federal government would generate additional revenue, as 5 percent of all fees obtained from commercial data delivery would be remitted to the Commission.

In summary, a grant of this experimental STA application would serve the public interest

because the information and data obtained from the tests will be valuable in evaluating the future use and development of 5G Broadcast technology, which Milachi, XGEN and their partners believe will bring significant benefits to the U.S. public.