

STATEMENT OF CHAIRMAN TOM WHEELER

Re: Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, GN Docket No. 14-177; Establishing a More Flexible Framework to Facilitate Satellite Operations in the 27.5-28.35 GHz and 37.5-40 GHz Bands, IB Docket No. 15-256; Petition for Rulemaking of the Fixed Wireless Communications Coalition to Create Service Rules for the 42-43.5 GHz Band, RM-11664; Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 to Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services, WT Docket No. 10-112; Allocation and Designation of Spectrum for Fixed-Satellite Services in the 37.5-38.5 GHz, 40.5-41.5 GHz and 48.2-50.2 GHz Frequency Bands; Allocation of Spectrum to Upgrade Fixed and Mobile Allocations in the 40.5-42.5 GHz Frequency Band; Allocation of Spectrum in the 46.9-47.0 GHz Frequency Band for Wireless Services; and Allocation of Spectrum in the 37.0-38.0 GHz and 40.0-40.5 GHz for Government Operations, IB Docket No. 97-95.

On my first day as Chairman, I described the FCC as the nation's "Optimism Agency." Today's Spectrum Frontiers Order is exactly what I had in mind when I made that statement.

Our broadband networks – wired and wireless – will define what our world is going to be like. From job creation, to education, to healthcare, to energy and on down the line, these networks will unleash new innovations, making the impossible possible. We have the incredible privilege of helping to shape that connected future. Today, we take the most significant steps yet to enable the next generation of wireless connectivity.

Fifth-generation, or 5G, connectivity will likely be more than an incremental evolutionary step forward in wireless technology. It promises quantum leaps forward in three key areas: speeds resembling fiber that are at least 10 times and maybe 100-times faster than today's 4G LTE networks; responsiveness less than one-thousandth of a second, which enables real-time communication; and network capacity multiples of what is available today.

Coupling this ultra-fast, low-latency, high-capacity connectivity with the almost unlimited processing power of the cloud will enable super fast wireless broadband, smart-city energy grids and water systems, immersive education and entertainment, and an unknowable number of innovations. In a 5G world, the Internet of Everything will be fully realized; everything that can be connected will be connected. Most important, 5G will enable killer applications yet to be imagined.

We are already seeing industry gearing up to seize this opportunity. AT&T, Sprint, T-Mobile and Verizon are all moving forward with plans to test and develop 5G technologies. For example, last month, Sprint demonstrated 5G connectivity offering speeds up to 4 Gbps at the Copa America soccer tournament in Philadelphia. Verizon recently announced the completion of its 5G radio specification, which provides guidelines to test and validate 5G technical components. These efforts will help inform the standards process by putting stakes in the ground. And the first commercial deployments at scale are expected in 2020.

Without question, 5G is a national priority. The interconnected world of the future will be the result of decisions we make today.

With today's Order, we are repeating the proven formula that made the United States the world leader in 4G: one, make spectrum available quickly and in sufficient amounts; two, encourage and protect innovation-driving competition; and three, stay out of the way of market-driven, private sector technological development.

Today's Order will make the United States the first country in the world to identify and open up vast amounts of high frequency spectrum for 5G applications. The big game-changer is that we are using much higher-frequency bands than previously thought viable for flexible uses, including mobile.

The ability to use this high-frequency spectrum opens much bigger chunks of spectrum. Current blocks of licensed low-band spectrum are usually 5 to 10 megahertz in width. With 5G, however, we are looking at blocks of at least 200 megahertz in width. This will allow networks to carry much more traffic per user – gigabits of throughput instead of megabits. We're talking about fiber-like capacity to wireless users.

By opening up these higher-frequency bands, we are making available over four times the total amount of licensed spectrum currently available for mobile. And we're not done. We're asking questions about opening up a significant number of other bands.

We are not prognosticating about the technology that has to be deployed in these bands. We are setting flexible rules that will allow the market to best determine how the technology will evolve, without having to ask our permission.

The new high bands we are opening up will be woven with the existing mid and low bands into networks that will provide coverage and high capacity for consumers and businesses. We aren't going to say "this band is to be used for 3G, this band for 4G and this band is for 5G." Our strength is in providing the flexibility to use all of the spectrum resources in the way that provides the best services.

And it's not just licensed spectrum; unlicensed will continue to play a critical role in future networks, as will shared spectrum. Today's Order will add to an existing unlicensed band to create a massive 14 gigahertz unlicensed band. Consider that – 14,000 megahertz of unlicensed spectrum, with the same flexibility that has allowed unlicensed to become a breeding ground for innovation. It also provides 600 megahertz within the 37 GHz band for shared access between commercial users and federal users. This band can provide access to spectrum where and when it's needed, and it will serve as a proving ground for policy and technical innovations to enable new forms of spectrum sharing between commercial and federal users.

Opening up spectrum and offering flexibility to operators and innovators is the most important thing we can do to enable the 5G revolution, but it's not the only thing.

We also needed to work out sharing issues between terrestrial and satellite operators. Sharing is essential for the future of spectrum utilization. Many of the high-frequency bands we are making available for 5G currently have some satellite users, or at least the possibility of future satellite users. Our rules strike a balance that offers flexibility for satellite users to expand, while providing terrestrial licensees with predictability about the areas in which satellite will locate.

To live up to its potential, 5G networks must also be secure. Cybersecurity issues need to be addressed during the design phase for the entire 5G ecosystem, including devices. For the FCC's part, our policy approach will emphasize that industry must develop and communicate cybersecurity standards. We anticipate that a continuous dialogue between the FCC, industry, and standards bodies will stimulate industry development of a security framework for 5G and the Internet of Things that will evolve to accommodate new functions and security threats.

If we've learned anything in the generational march through wireless connectivity, it is that we have always underestimated the innovation that would result from new generations of wireless networks. Thank you to all the Commission staff who worked to craft this item and shape this next chapter in our wireless future.