

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of:)	
)	
Unlicensed Use of the 6 GHz Band)	ET Docket No. 18-295
)	
Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz)	GN Docket No. 17-183
)	
Office of Engineering and Technology Seeks Comment Following Court Remand of 6 GHz Band Order)	Public Notice DA 22-253
)	

**COMMENTS OF
THE NATIONAL ASSOCIATION OF BROADCASTERS**

I. INTRODUCTION

The National Association of Broadcasters (NAB)¹ hereby responds to the Office of Engineering and Technology’s (OET’s) Public Notice seeking comments in connection with the remand by the United States Court of Appeals for the District of Columbia Circuit of the Commission’s order authorizing unlicensed operations across the 6 GHz band.² For the reasons discussed below, the simplest, fairest, and fastest way for the Commission to move forward in this proceeding would be to reserve a limited amount – specifically 55 MHz – of spectrum for exclusive use by licensed mobile operations.

¹ The National Association of Broadcasters (NAB) is the nonprofit trade association that advocates on behalf of free local radio and television stations and broadcast networks before Congress, the Federal Communications Commission and other federal agencies, and the courts.

² *Office of Engineering and Technology Seeks Comment Following Court Remand of 6 GHz Band Order*, ET Docket No. 18-295, GN Docket No. 17-183, DA 22-253 (March 10, 2022) (Notice).

NAB does not oppose expanded unlicensed operations and spectrum sharing where there is a sufficient record to demonstrate compatibility with existing licensed users. In this case, however, NAB stressed to the Commission that, because ENG operations frequently take place indoors, Commission rules restricting unlicensed users to indoor operation would fail to protect licensed mobile users. Further, because these operations are itinerant, a database cannot offer protection against harmful interference. Finally, NAB stressed that an alternative mechanism for protecting users, a contention-based protocol (CBP), which has failed for decades to protect broadcaster operations in other spectrum bands, cannot effectively prevent interference to such operations in the 6 GHz band.

Based on these facts and on broadcasters' experience in other bands, there is no basis for concluding that the Commission's rules can adequately protect licensed mobile operations. The only available solution is spectral separation between unlicensed users and licensed mobile operations. The Commission should thus reserve a small portion of the 6 GHz band for licensed mobile operations – which still allows the Commission to make a massive amount of spectrum available for unlicensed use.

Of course, if future experience or technological developments provide an alternative for accommodating unlicensed operations in the same portion of the band as licensed mobile operations, the Commission can revisit this conclusion. Critically, however, the reverse is not true. If the Commission fails to reserve a portion of the band for licensed mobile users now, and those users experience real-world interference similar to what we observe elsewhere, the Commission will have no options left to protect them.

II. A CONTENTION-BASED PROTOCOL WILL FAIL TO PROTECT BROADCASTER OPERATIONS IN THE 6 GHZ BAND

The U-NII-6 and U-NII-8 sub-bands are allocated to the mobile service on a primary basis and are routinely used for electronic newsgathering (ENG) operations, such as

transporting video from portable cameras back to the studio. Because these cameras are battery-operated, they necessarily operate at low power levels – levels comparable to those authorized for low power indoor unlicensed operations in the 6 GHz band. The similarity in power levels magnifies the potential for interference when unlicensed and ENG systems are used in close proximity and occupy the same spectrum.

In authorizing unlicensed operations across the 6 GHz band, the Commission agreed with NAB that such operations would pose a risk of harmful interference to ENG operations absent the constraints the FCC adopted on unlicensed operations.³ Chief among those constraints was the requirement that 6 GHz unlicensed devices use a CBP.⁴

However, as NAB has previously noted, a CBP is ill-suited to protect ENG operations. ENG operations are one-way, meaning that there are active transmitter nodes, such as wireless cameras, and passive receiver nodes. Spectrum sensing systems, including the listen-before-talk CBP used in Wi-Fi, can only detect transmitters. Receiver nodes are “hidden” and completely undetectable by a CBP. Any unlicensed device operating between an ENG transmitter and an ENG receiver can cause harmful interference with even the most sophisticated CBP totally unable to detect the problem. There is simply no engineering basis for believing that any known or proposed CBP can prevent harmful interference to such hidden nodes. Indeed, history shows the opposite to be true.

Broadcasters’ prior experience in the 2.4 GHz band confirms that the use of a CBP, as required by the Wi-Fi standard, has repeatedly failed to prevent harmful interference to licensed users. The decades-old listen-before-talk CBP used by Wi-Fi systems, CSMA/CA, has

³ *Unlicensed Use of the 6 GHz Band*, Report and Order, 35 FCC Rcd 3852, ¶ 168 (2020).

⁴ *Id.*

been ineffective in eliminating or avoiding interference to Broadcast Auxiliary Service (BAS) Channels A8 and A9, which share spectrum with 2.4 GHz unlicensed Wi-Fi systems. As a result, those channels are largely unusable by licensed BAS systems.

In particular, the Society of Broadcast Engineers recently conducted an informal survey of local frequency coordinators asking whether Channels A8 and A9 were available for routine use in those coordinators' markets. Those coordinators reported that in many markets, including Albany, Chicago, Indianapolis, Los Angeles, Louisville, Milwaukee, Minneapolis, Nashville, New York, Palm Beach, Phoenix, Raleigh, and San Francisco, Channels A8 and A9 were functionally unavailable due to persistent problems with harmful interference from Wi-Fi systems. This is true despite the existence of the very CBP that will be employed in the 6 GHz band for Wi-Fi operations in the band. Nothing in the record suggests otherwise.

Unfortunately, the Commission failed to address the hidden node problem in the previous iteration of his proceeding when discussing its CBP requirement. This error was significant, as CBP is simply unable to detect passive ENG receivers. Without any sufficient alternative in the record, spectral separation between unlicensed operations and licensed ENG users is essential.

III. THE COMMISSION SHOULD RESERVE 55 MHZ FOR LICENSED MOBILE USE

Journalism, including live coverage of events as they unfold, has never been more important. Access to spectrum is an indispensable component of broadcasters' ability to provide high-quality and real-time coverage of history as it unfolds. We urge the Commission to support local and national broadcast journalism by considering a reasonable compromise that will help ensure that broadcasters are able to continue to perform their vital work.

Anything else simply further advantages the very Big Tech corporations who are already undercutting local journalism in other ways.⁵

As discussed above, because ENG systems cover breaking news, they can be located anywhere, indoors or outdoors. There is no database of these itinerant operations. A CBP has demonstrably failed to protect broadcast ENG operations in the 2.4 GHz band, and there is no technical basis for concluding that any CBP could plausibly protect itinerant ENG operations. The only way to protect these ENG receivers is by excluding unlicensed access to the spectrum in which they operate.

Ofcom has recently proposed to permit shared access for low-power indoor operations in a portion of the 6 GHz band (6425-7070 MHz), reserving 55 MHz at the very top of the band (7070-7125 MHz) for licensed uses including electronic news-gathering (to which Ofcom refers as “Programme Making and Special Events”).⁶

While NAB previously proposed that the Commission reserve 80 MHz of spectrum for licensed mobile operations in order to support the Commission’s apparent goal of maximizing the number of 160 MHz Wi-Fi channels, reserving at least 55 MHz would not only serve to protect many ENG operations, but also would harmonize the use of the band internationally. 55 MHz would provide two full 25 MHz channels for electronic newsgathering operations, plus

⁵ See BIA Advisory Services, “Economic Impact of Big Tech Platforms on the Viability of Local Broadcast News,” 21 (2021) (local broadcasters lose nearly \$2 billion per year in value created for tech platform users that broadcasters are not able to monetize) (available at: https://www.nab.org/documents/newsRoom/pdfs/Economic_Impact_Tech_Platforms_Broadcast_News.pdf).

⁶ Ofcom, “Enabling spectrum sharing in the upper 6 GHz band,” (Feb. 28, 2022) (available at: https://www.ofcom.org.uk/data/assets/pdf_file/0022/233194/spectrum-sharing-6ghz.pdf).

a 5 MHz guard band, while still providing 1145 MHz of spectrum for unlicensed use, more than enough for seven contiguous 160 MHz channels (and more than five times the entire broadcast television band). This approach would resolve the United States Court of Appeals for the District of Columbia's remand of the Commission's 6 GHz order while also providing regulatory certainty for potential unlicensed users of the band. It is, quite simply, the most efficient way to resolve this proceeding in a manner that encourages unlicensed innovation by making a massive amount of spectrum available while still protecting licensed users of the band. We urge the Commission to adopt this proposal expeditiously.

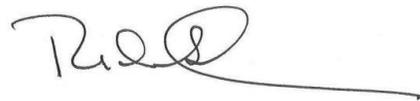
IV. CONCLUSION

The Commission should reserve the 7070-7125 MHz portion of the 6 GHz band for licensed mobile operations. This is the only proposal in the record that will protect licensed ENG operations and allow broadcasters to continue to cover live and breaking news events using 6 GHz spectrum. It is also the simplest and most efficient way to quickly resolve this proceeding and provide regulatory certainty for unlicensed users of the band. We urge the Commission to move forward expeditiously with this compromise approach.

Respectfully submitted,

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