

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

Expanding Use of the 12.7-13.25 GHz)	
Band for Mobile Broadband or)	GN Docket No. 22-352
Other Expanded Use)	
)	

**REPLY COMMENTS OF
THE SOCIETY OF BROADCAST ENGINEERS, INC.**

The Society of Broadcast Engineers, Inc. (“SBE”)—the national association of broadcast and multimedia technology professionals with over 5,000 members worldwide—submits these reply comments regarding the comments filed thus far in response to the Notice of Proposed Rulemaking (the “NPRM”)¹ in the above-captioned proceeding. SBE previously filed opening comments, as well as comments in response to the underlying Notice of Inquiry issued in this proceeding.²

Many of the opening comments indicate concern with ensuring that adequate time and attention are given to crafting the rules that will govern any opening of the 12.7-13.25 GHz Band (the “12.7 GHz Band” or “Band”) for expanded use.³ SBE shares those concerns, which manifest

¹ *Expanding Use of the 12.7-13.25 GHz Band for Mobile Broadband or Other Expanded Use*, Notice of Proposed Rulemaking and Order, GN Docket No. 22-352, FCC 23-36 (rel. May 19, 2023). SBE previously filed comments on the underlying Notice of Inquiry. *Expanding Use of the 12.7-13.25 GHz Band for Mobile Broadband or Other Expanded Use*, Notice of Inquiry and Order, GN Docket No. 22-352, FCC 22-58 (rel. July 13, 2022) (“12.7 GHz NOI”).

² Comments of the Society of Broadcast Engineers, GN Docket 22-352 (Aug. 10, 2023) (“SBE Opening Comments”); Comments of the Society of Broadcast Engineers, GN Docket 22-352 (Dec. 12, 2022) (“SBE NOI Comments”).

³ *See, e.g.*, Comments of Qualcomm Incorporated, GN Docket 22-352, at 1-3 (filed Aug. 9, 2023) (“Qualcomm Opening Comments”); Comments of OneWeb, GN Docket 22-352, at 16-17 (filed Aug. 9, 2023) (“OneWeb Opening Comments”) (explaining that 12.7 GHz band presents technical issues that are “meaningfully distinct from previous, seemingly analogous, policy decisions” and therefore urging Commission to “allow sufficient time . . . to develop
(Continued . . .)

in numerous ways throughout the topics considered and questions asked in the NPRM. Most notably, the Commission must solicit and obtain adequate data to craft new rules calibrated not only for short-term, but also long-term, potential future uses of the band, while simultaneously protecting crucial existing, incumbent uses such as current broadcast auxiliary services (“BAS”).

In these Reply Comments, SBE therefore wishes to address the following key points: (1) the Commission should not rush to repurpose the band and should instead engage in deliberate long-term analysis of how best to utilize the band going forward; (2) existing fixed BAS links that cannot be relocated must remain authorized and grandfathered; (3) mobile BAS should be allocated to an exclusive protected block within the Band, thus bypassing any need for (or inherent problems that come from) automated frequency coordination (“AFC”); (4)) all new entrants to the band must be licensed in order to ensure certainty and utility for those authorized to use the Band; and (5) to the extent the Commission considers authorizing higher power levels than those proposed in the NPRM, adequate analysis regarding the potential interference to adjacent users must be completed before any determination on that issue can be made.

I.

All Affected Stakeholders—Including the Commission, the Public, Incumbents, and Potential New Band Entrants—Will Be Best Served By An Unhurried, Deliberate Approach to This Proceeding to “Future Proof” the Band to the Maximum Extent Possible

Multiple comments filed thus far in the proceeding express a shared concern regarding moving too hastily to open up the Band for expanded use.⁴ For instance, multiple commenters

relevant analyses and the accompanying policy recommendations to go along with them”); Comments of 5G Americas, GN Docket 22-352, at 1-2 (filed Aug. 9, 2023) (“5G Americas Opening Comments”) (“[I]t is premature to propose technical rules for the 12.7 GHz band”); Joint Comments of Satellite Operators, GN Docket 22-352, at 17-18 (filed Aug. 9, 2023) (“Satellite Operators Opening Comments”) (requesting fundamental reconsideration of NPRM’s proposals).

⁴ See numerous comments cited note 3, *supra*.

have explained that this proceeding provides a unique opportunity to ensure that the 12.7 GHz Band is appropriately calibrated not just for today's and tomorrow's spectrum needs, but also for those that are nascent. This issue cuts across all affected stakeholders in the proceeding: from potential new entrants in the Band, who simultaneously desire flexibility and certainty in future uses, to incumbent users such as broadcast licensees who have explained that crucial, often irreplaceable BAS services are currently deployed in the Band that must continue to have allocated and protected spectrum within the Band.

As SBE indicated in its opening comments, “Broadcasters are prepared to do their part to support . . . ongoing spectrum reallocation needs, including in the 12.7 GHz Band.”⁵ To ensure that all affected stakeholders and, most importantly, the public receive the greatest benefit possible from the proposed reallocation of the 12.7 GHz Band, the Commission must take the time necessary to solicit and evaluate all information necessary to provide the greatest future utility in the band. For example, the Commission must carefully consider the scope and importance of incumbent operations, including the extent to which current operations can viably be relocated or repacked. And the Commission must in turn use that information to inform the scope of currently available expanded-use operations that may be authorized, as well as the potential viability within the Band to host nascent spectrum operations. The latter point is especially crucial in light of the fact that multiple commenters—including wireless and broadband interests—have highlighted the fact that the 12.7 GHz Band is not a substitute for their desire for lower mid-band spectrum, meaning that future use of the 12.7 GHz Band must look beyond the uses for which wireless and broadband providers wish for lower mid-band

⁵ SBE Opening Comments, at 12.

spectrum.⁶ Indeed, to further emphasize the point, multiple comments submitted by those in favor of exploring expanded use in the Band make clear that there is significant uncertainty as to how exactly the Band might actually be used once opened, meaning that “12.7 GHz technical and operating rules adopted now could be outdated or wholly unsuited to support” new uses.⁷

Fundamentally, this proceeding provides an excellent opportunity for the Commission to simultaneously preserve existing critical uses, such as fixed and mobile BAS, already deployed in the Band, and carefully calibrate rules regarding expanded use to anticipate not only current desires for additional spectrum, but potentially equal (if not higher) nascent expanded uses.

⁶ *E.g.*, Comments of Ericsson, GN Docket 22-352, at 1, 13 (filed Aug. 9, 2023) (“Ericsson Opening Comments”) (articulating support for NPRM so long as Commission also “identif[ies] prime mid-band spectrum—in particular, spectrum in the 3-8 GHz range”); Qualcomm Opening Comments, at 7-9 (explaining that proposed rules for 12.7 GHz Band cannot support “same coverage that C-Band 5G operations provide today” and that NPRM “fails to address the current spectrum needs of mobile network operators”); Comments of the Satellite Industry Association, GN Docket 22-352, at 3 (filed Aug. 9, 2023) (explaining that technical limitations “will limit the potential benefits of making this [12.7 GHz] band available for terrestrial services”); Comments of NCTA – The Internet & Television Association, GN Docket 22-352, at 2 (filed Aug. 9, 2023) (“NCTA Opening Comments”) (stating that the 12.7 GHz band is “not a substitute for bands in lower frequencies with different profiles”); 5G Americas Opening Comments, at 2-5 (“The public interest would be best served by the Commission redoubling its efforts to repurpose spectrum in lower mid-band ranges for 5G and 5G-Advanced first, before adopting rules for the 12.7 GHz that may be obsoleted once the standards for 6G are complete.”).

⁷ *See, e.g.*, Comments of AT&T, GN Docket 22-352, at 2-3 (filed Aug. 9, 2023); 5G Americas Opening Comments, at 3-5 (stating preference that Commission examine Band for future 6G deployments rather than current potential 5G uses); Comments of Verizon, GN Docket 22-352, at 5 (filed Aug. 9, 2023) (“Verizon Opening Comments”) (“[T]he standards development process has not been completed for the variety of component parts that will be needed to support connectivity in the 12.7 GHz frequency range.”); Ericsson Opening Comments, at 5-7 (relying on white paper of mobile life “beyond 2030” for potential new uses in the Band “[o]ver time”).

II. Existing Fixed BAS Links that Cannot Be Relocated Must Remain Authorized and Grandfathered

As SBE and NAB explained in their opening comments, it is imperative for existing fixed BAS links that cannot be relocated to remain authorized in the Band and protected against interference from any current or future users. Such fixed links are often the exclusive path for a station to deliver its programming to its broadcast transmitter (studio transmitter links, or “STLs”), whether for a full service television broadcast facility or an associated TV translator to be able to reach the public over the air and especially in rural areas, or to reach a cable headend or make otherwise infeasible links through a spectrum-congested area (intercity relay, or “ICR”).⁸ Those fixed BAS links are therefore not a luxury, but instead a *necessity* for stations to serve the public with timely news, emergency, and entertainment programming via their over-the-air broadcast signals. This is especially true given that alternate media such as fiber or wireless technologies, and hypothetical deployments in other spectrum ranges, are typically not as robust or reliable as broadcasters’ existing fixed links in the Band, and that existing fixed BAS links may be unable to relocate to any other suitable frequencies in spectrum-congested markets.⁹

The need to protect existing BAS fixed links that are incapable of relocation further ties directly into the global need for the Commission to approach this proceeding cautiously and to act only after obtaining all necessary information. As both SBE and NAB explained in their opening comments, there must be a meaningful examination of all existing fixed BAS links in the Band—including current and potential future (i.e., if repacked or relocated) technical

⁸ NAB Opening Comments, at 3-4, 9-10; SBE Opening Comments, at 2-5; *see also* NCTA Opening Comments, at 12 (explaining that BAS and CARS users have “mission-critical operations currently using the 12.7 GHz band,” sometimes “in geographies where other options have been very limited”).

⁹ *See, e.g.*, SBE Opening Comments, at 4; NAB Opening Comments, at 2-3.

parameters, as well as the current spectrum and other limitations in each relevant link’s market— as well as the potential future expanded uses the Commission wishes to authorize within the Band, in order to objectively determine the likelihood of successful relocation for existing BAS links.¹⁰ Only once the Commission has that information in hand can it determine with greater certainty what spectrum in the Band will be available for new expanded uses in each market, as well as how much spectrum will need to continue to be set aside for exclusive protected BAS operation.

Fundamentally, the Commission therefore cannot yet accurately state with any objective reliability that any particular percentage of—let alone *all*—fixed BAS links may be relocated. Due to the mission-critical role many of those fixed BAS links play, the Commission should not set any sunset date for BAS links that are incapable of relocation. To do so without adequate information as to truly viable alternatives would leave multiple broadcasters with no reliable method of over-the-air distribution to the public.

III.

Mobile BAS Should be Allocated to an Exclusive Protected Block Within the Band

The NPRM expressly proposed “to repack mobile BAS/CARS incumbents to a portion of the 12.7 GHz band.”¹¹ Submissions in the proceeding thus far demonstrate that numerous commenters, including SBE, support that proposal.¹² In particular, mobile BAS deployments provide valuable support for broadcasters’ newsgathering operations, and often span large geographic areas across unanticipated timeframes dictated by breaking news or emergency coverage. As a result, the scope of such mobile electronic newsgathering (“ENG”) deployments

¹⁰ See, e.g., NAB Comments, at 9-10, 13-14; SBE Opening Comments, at 2-4.

¹¹ NPRM, at ¶¶ 65, 72, 75.

¹² See, e.g., SBE Opening Comments, at 5-10; NAB Opening Comments, at 12-13.

in any given location is often difficult to predict and would be correspondingly difficult to coordinate via any automated system.

In this regard, SBE wishes to highlight the fact that nearly all submissions in this proceeding thus far necessarily speak in purely conjectural terms regarding any AFC that might enable additional non-ENG uses in a mobile repack band.¹³ As the Dynamic Spectrum Alliance explains, this is in part because “some incumbent uses of the . . . 12.7 GHz band[] are different than those” in other bands where AFC systems have already been deployed or are in development, thus creating “technical challenges” to AFC development and deployment in the Band.¹⁴ More fundamentally, “[d]ynamic sharing can thus be viewed as a continued experiment at best, with little success in achieving the Commission’s goal of promoting innovative use.”¹⁵ Indeed, even the NPRM frames the relevant question as whether an AFC system could—“*at a later design date*”—be used to enable expanded use in a mobile repack band.¹⁶ SBE respectfully submits that, in light of the lack of objective data regarding any potential AFC viability in the mobile repack band, multiple prior AFC system failures are the relevant and controlling datapoints here such that here any mobile repack band should be designated for exclusive use.¹⁷

¹³ See, e.g., Comments of WISPA – Broadband Without Boundaries, GN Docket 22-352, at 16 (filed Aug. 9, 2023) (advocating for hypothetical “dynamic spectrum access system such as the AFC systems used in the 6 GHz band,” none of which have yet been authorized).

¹⁴ Comments of Dynamic Spectrum Alliance Limited, GN Docket 22-352, at 4 (filed Aug. 9, 2023) (further stating that challenges are “not insurmountable” but speaking in purely hypothetical terms as to any AFC system that might be developed).

¹⁵ Verizon Opening Comments, at 11; accord Comments of T-Mobile USA, Inc., GN Docket 22-352, at 16 (filed Aug. 9, 2023) (explaining that AFC systems “are either inappropriate or unproven for the 12.7 GHz band”).

¹⁶ See NPRM, at ¶ 78.

¹⁷ See, e.g., SBE Opening Comments, at 4 n.11 and source cited therein; NAB Opening Comments, at 8-9; Comments of Competitive Carriers Association, GN Docket 22-352, at 5 (filed Aug. 9, 2023) (“Competitive Carriers Opening Comments”) (“[E]fforts to implement
(Continued . . .)

In sum, mobile BAS is a crucial aspect of many broadcasters' operations and the dissemination of timely breaking news, emergency, and local information to the public. There are no data in the record to suggest an AFC system would be sufficient to protect ENG in the mobile repack band; consequently, mobile BAS should be the only service authorized in the mobile repack band, and that repack band should comprise no less than 25 MHz.¹⁸

IV. History and Forward-Looking Certainty Dictate that New Entrants to the Band Must be Licensed

All objective record evidence thus far indicates that the Commission should not authorize any unlicensed users in the Band.¹⁹ Unlicensed spectrum already “outpace[es] licensed spectrum in mid-band frequencies more than four-to-one.”²⁰ And there are no objective data indicating that unlicensed users would be able to restrain operations in an amount sufficient to ensure against interference to licensed operations. As SBE and others previously indicated, “unlicensed uses are unpredictable in both time and location,” generating uncertainty and greater time and resource expenditures for all users of the Band, especially given that “unlicensed users tend to be less responsive than licensed users regarding interference concerns, both in coordination efforts prior

spectrum sharing frameworks in other bands . . . are not working as intended” (internal quotation mark omitted)).

¹⁸ *See, e.g.*, SBE Opening Comments, at 6-7 (explaining need for at least 25 MHz in light of current technology, as well as reimbursement for upgrades necessary to squeeze current mobile BAS operations into the repack band); NAB Opening Comments, at 4-6.

¹⁹ As SBE explained in its opening comments, authorizing unlicensed use in the Band is a separate issue from existing BAS deployments pursuant to authorization under the short-term operations rule. 47 C.F.R. § 74.24. The short-term operations rules provides a critical method for Part 73 or BAS license holders to conduct mobile ENG operations to deliver critical information to the public and should continue to authorize such operations in the Band. *See* SBE Opening Comments, at 8-9, 12 n.26; *accord* NAB Opening Comments, at 6-7.

²⁰ *See* Competitive Carriers Opening Comments, GN Docket 22-352, at 5 (filed Aug. 9, 2023).

to deployment and in resolving any interference issues that might arise once deployment has occurred.”²¹ Put succinctly, for the Band to remain viable for incumbent and expanded licensed uses the Commission must avoid authorizing unlicensed uses and the inherent uncertainty, and increased time and resource expenditures such uses entail.

V.

Higher Power Levels May Only Be Justified If Adequate Interference Analysis Demonstrates a Lack of Harm to Co- and Adjacent-Band Users

As the NPRM already recognizes, the “propagation characteristics of this [Band] will require operators to transmit at relatively high power to achieve meaningful coverage and capacity.”²² With this in mind, SBE, NAB, and others have already articulated meaningful concerns regarding the proposed power limits and corresponding out-of-band emission limits (“OOBE”).²³ However, several commenters thus far have advocated for even higher power levels than those proposed in the NPRM.

To the extent the Commission considers such proposals for higher power, SBE wishes to emphasize the need for objective record evidence demonstrating that such higher power levels will not cause impermissible interference to co and/or adjacent users, including incumbent users of the Band.²⁴ There will be little-to-no utility opening the Band to expanded use if doing so will severely diminish the number of concurrent Band users that may be authorized. In this regard, SBE further respectfully submits that at some point the stated need for significantly higher power

²¹ NAB Opening Comments, at 7; SBE Opening Comments, at 11; *see also* Comments of Comments of RS Access, LLC, GN Docket 22-352, at 8 (filed Aug. 9, 2023) (“The Commission should decline to authorize an unlicensed underlay in the band.”).

²² NPRM, at ¶ 63.

²³ SBE Opening Comments, at 11; NAB Opening Comments, at 6; OneWeb Opening Comments, at 11-16.

²⁴ *Cf.* Qualcomm Opening Comments, at 16 (advocating for FNPRM on higher power levels).

levels than those typically authorized will tend to demonstrate that a particular expanded use might not, in fact, be best-suited (or even appropriate) for the 12.7 GHz Band.²⁵

Conclusion

SBE joins with the other commenters in the proceeding who have thus far called for the FCC to engage in careful examination and deliberation prior to acting in this proceeding. Once all necessary information is solicited and obtained: existing fixed BAS links that cannot be relocated must remain authorized and grandfathered; mobile BAS must be allocated to an exclusive protected block within the Band; unlicensed users should not be permitted; and adequate objective interference studies must be a prerequisite to any authorization of power levels higher than those proposed in the NPRM. As SBE has previously stated, broadcasters are willing to do their part to ensure increased access to spectrum—however, the critical broadcast services currently deployed in the Band must be protected in order to ensure continued delivery of timely and free over-the-air local news, emergency, and informational programming to the public and in furtherance of the public interest.

²⁵ *Cf.* Satellite Operators Opening Comments, at 12-16 (explaining that authorizing expanded use in the band, “particularly mobile services, would cause unacceptable interference to both in-band satellite services and satellite services in the adjacent bands”); Comments of Nokia, GN Docket 22-352, at 3 (filed Aug. 9, 2023) (discussing “fundamental challenges” of 12.7 GHz band for NPRM’s current use proposals).

Respectfully submitted,

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