

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

In the Matter of)	
)	
Modifying Rules for FM Terrestrial Digital)	MB Docket No. 22-405
Audio Broadcasting Systems Requesting)	
)	

**REPLY COMMENTS OF THE
NATIONAL ASSOCIATION OF BROADCASTERS**

I. INTRODUCTION AND SUMMARY

The National Association of Broadcasters (NAB)¹ submits these reply comments on the above-captioned Notice of Proposed Rulemaking.² NAB agrees with the Commission’s tentative conclusions that permitting additional digital FM radio stations to increase power³ and operate with asymmetric sideband power levels⁴ will improve digital broadcasting radio service.⁵ As set forth below, the record in this proceeding supports the Commission’s approach, and disproves claims that allowing such improvements will cause harmful interference to other existing services.

Adopting the NPRM proposals will support the continued roll-out of digital radio service by providing greater certainty that FM stations converting to digital operations will be

¹ NAB is a nonprofit trade association that advocates on behalf of local radio and television stations and also broadcast networks before Congress, the Federal Communications Commission, and other federal agencies, and the courts.

² *Modifying Rules for FM Terrestrial Digital Audio Broadcasting Systems*, Order and Notice of Proposed Rulemaking, FCC 23-61, MB Docket No. 22-405 (rel. Aug. 1, 2023) (NPRM).

³ Petition for Rulemaking of NAB and Xperi Inc., MB Docket No. 22-405 (filed Oct. 26, 2022) (Power Increase Petition) (requesting an updated formula for determining maximum FM digital power levels).

⁴ Petition for Rulemaking of NAB, Xperi Corp., and National Public Radio (NPR), MB Docket No. 22-405 (filed Dec. 9, 2019) (Asymmetric Sideband Petition) (requesting blanket authorization to set digital power at different levels on each digital sideband).

⁵ NPRM at ¶ 3.

able to replicate their analog service coverage. This will bring the benefits of improved radio service to more listeners, including enhanced audio quality and increased access to the plethora of unique programming that is made possible by digital broadcasting.

The record demonstrates that allowing digital radio stations to use the proposed power formula will not cause harm to first-adjacent full-power stations. In the event that valid complaints about digital-to-analog interference arise, the Commission has long-standing, proven procedures for resolving such conflicts. NAB also supports allowing previously authorized superpowered FM stations to use the proposed power formula without special restrictions, pursuant to a separate FM digital power table that will help prevent confusion. We also submit that claims of potential interference by digital stations using the new power formula to secondary services in the FM band and non-broadcast services need not deter the Commission from adopting the NPRM's proposals. Regarding concerns about potential interference to services in neighboring aeronautical radionavigation spectrum, NAB has already held productive discussions with aviation stakeholders to identify the potential issues and will forge a path forward that appropriately balances these concerns while not unreasonably hindering FM broadcasters from optimizing digital operations.

Finally, NAB notes that the record overwhelmingly supports the NPRM proposal to allow digital stations to operate at different power levels on the upper and lower digital sidebands without having to request experimental authority.

II. IMPLEMENTING THE PROPOSALS IN THE NPRM WILL BENEFIT LISTENERS

The record unambiguously supports the Commission's findings that approving the proposals in the Power Increase Petition and Asymmetric Sideband Petition will enhance

digital radio service.⁶ Deployment of HD Radio continues to steadily increase, as more than 63 percent of new vehicles now come equipped with a compatible digital radio receiver. At the same time, while nearly 2,600 radio stations in the United States presently broadcast in digital,⁷ the rate of station conversions to digital has not kept pace with the growth in digital receiver sales. An important hindrance is the inability of many stations to replicate their analog signal coverage using the digital power levels currently allowed under the Commission's rules.⁸ Broadcasters need more certainty that they will not lose any coverage or listeners before investing the resources required to convert to digital operations.

Adopting the NPRM proposals will also encourage equipment manufacturers to continue investing in the development of HD Radio equipment, thereby reducing equipment costs and making digital operations affordable for more stations. In addition, as the Joint Commenters explain, "a more robust HD Radio environment will promote free, over-the-air radio service as an alternative to fee-based audio services such as satellite radio and internet audio streaming."⁹ NAB submits that the Commission should not miss this opportunity to support free broadcasting services to the public.

⁶ NPRM at ¶ 7. Comments of National Public Radio at 1-2, MB Docket No. 22-405 (Sep. 21, 2023); Comments of REC Networks 15-16, MB Docket No. 22-405 (Sep. 21, 2023); Comments of New York Public Radio (NYPR) at 1-2, MB Docket No. 22-405 (Sep. 21, 2023); Comments of Xperi Inc. and NAB at 1-3, MB Docket No. 22-405 (Sep. 21, 2023); Comments of CMG Media Corp. at 2-3, MB Docket No. 22-405 (Sep. 21, 2023); Comments of Joint Public Radio Licensees at 1, MB Docket No. 22-405 (Sep. 21, 2023); Comments of iHeart Communications, Inc. at 1-2, MB Docket No. 22-405 (Sep. 21, 2023); Comments of Audacy, Inc., et. al at 1-4, MB Docket No. 22-405 (Sep. 21, 2023) (Joint Radio Comments); Comments of Educational Media Foundation (EMF) at 1-2, MB Docket No. 22-405 (Sep. 21, 2023).

⁷ Xperi and NAB Comments at 3.

⁸ Power Increase Petition at 4-5; iHeart Comments at 3.

⁹ Joint Radio Commenters Comments at 1-2.

Approving the NPRM proposals will allow more listeners to enjoy the benefits of superior radio service, such as a richer, clearer signal throughout a station's coverage area and inside buildings, and the ancillary services and additional programming that HD Radio provides. For example, NYPR states that HD Radio is vital to its mission of maximizing service to listeners in New York City, and the rich metadata of HD Radio signals allows NYPR to enhance listeners' experience with textual and graphical information about traffic, special events, song information, and album artwork.¹⁰ HD Radio technology also facilitates improved emergency alerting, such as Common Alerting Protocol-formatted EAS messages with the potential to include enhanced, more informative alerts like escape routes or shelter-in-place instructions.¹¹

Allowing more digital stations to increase power would further the Commission's efforts to advance digital equity and inclusion,¹² as digital radio is the source of abundant diverse or inclusive content. Both NYPR and iHeart cite multiple examples of such programming, including shows and entire channels focused on the needs and interest of immigrants, the LGTBQIA+ community,¹³ and other underserved audiences. iHeart alone has 85 HD channels serving diverse and inclusive audiences, such as the only nationwide audio news network designed to provide trustworthy news and information with a Black voice and perspective, and a Spanish-language news format that airs on three AM-FM digital radio platforms in Florida.¹⁴

III. IMPLEMENTING THE NPRM PROPOSALS WILL NOT CAUSE HARMFUL INTERFERENCE TO OTHER FULL-SERVICE RADIO STATIONS OR OTHER SERVICES IN THE FM BAND

¹⁰ *Id.*

¹¹ Joint Public Radio Licensees Comments at 2; NYPR Comments at 3.

¹² NPRM at ¶ 31.

¹³ NYPR Comments at 4.

¹⁴ iHeart Comments at 13-14 and Attachment A.

A. Existing Interference Protection and Remediation Policies Will Protect Adjacent-Channel Full-Service Stations

NAB agrees with the Commission's finding that approving the proposals in the NPRM would be consistent with its goal of "advancing the progress of digital radio without causing harmful interference or disruption to existing analog operations."¹⁵ NAB has confirmed through extensive analytical and field studies that most FM stations can increase digital power above -14 dBc and up to -10 dBc without causing any such issues.¹⁶ NYPR explains that 2021 field tests of the proposed digital power formula showed that digital power increases by music-formatted first-adjacent stations to the north and south caused no degradation to WNYC-FM's "lightly compressed, mainly spoken-word audio at locations just inside the station's protected contour."¹⁷ NYPR's technical representatives attended both tests and reviewed all the audio recordings and data to confirm these observations. CMG also has first-hand knowledge of these field tests and confirms NYPR's findings.¹⁸

It is also important to clarify that the proposed digital power formula is not a so-called "power increase,"¹⁹ The maximum digital power levels established in 2010 are not being raised, but rather the formula that establishes power levels for individual stations is being modified to allow more digital stations to optimize service under the existing limits. Stakeholders have had the benefit of 12 years to observe the actual effects of allowing digital radio stations to modify their digital operations to the proposed levels, and as the Commission states, there has been a "paucity" of interference complaints during that

¹⁵ NPRM at ¶ 12.

¹⁶ Power Increase Petition at 1-5.

¹⁷ NYPR Comments at 3.

¹⁸ CMG Comments at 3.

¹⁹ See, e.g., Comments of Douglas Sedon, MB Docket No. 22-405 (Aug. 7, 2023).

period.²⁰ The Commission itself has acknowledged that the existing digital power formula is over-protective, stating in the 2010 DAB Order: “The Bureau’s experience with higher power digital experimental authorizations suggests that the formula developed by NPR and endorsed by iBiquity in the Agreement is overly-predictive of the potential for interference.”²¹ Together with extensive analysis and field studies, this real-world experience shows that allowing more digital stations to optimize service would serve the public interest.

A smattering of commenters claim that adopting the proposed formula will disrupt analog radio reception.²² Although NAB sincerely appreciates their devotion to FM radio, none points to any documented examples of interference or any filed complaints against digital stations. As iHeart states, these concerns are unfounded given that Class A protections will remain the same, with no changes to the treatment of full-service stations under the revised power formula.²³

Press Communications is concerned that allowing digital radio stations to use the proposed power formula will impact established listening patterns beyond the 60 dBu contour of Class A stations in New Jersey and similarly situated stations elsewhere.²⁴ The Commission should dismiss such concerns because “there is no need to protect” analog

²⁰ NPRM at ¶ 16.

²¹ *Digital Audio Broadcasting Systems And Their Impact on the Terrestrial Radio Broadcast Service*, Order, 25 FCC Rcd 1182, 1189 (MB 2010) (2010 DAB Order).

²² See, e.g., Comments of Rick Price and Pamela Price, MB Docket No. 22-405 (Aug. 30, 2023); Comments of Tom Potter, MB Docket No. 22-405 (Aug. 30, 2023); Comments of Ira Petry II, MB Docket No. 22-405 (Aug. 29, 2023); Comments of Maciej Kawalkowski, MB Docket No. 22-405 (Aug. 29, 2023); Comments of Dwight Price, MB Docket No. 22-405 (Aug. 7, 2023).

²³ iHeart Comments at 5.

²⁴ Letter from Robert McAllan, CEO, Press Communications, LLC, to Marlene H. Dortch, Secretary, FCC, MB Docket No. 22-405 (Mar. 23, 2023), at 1.

stations from interference outside the protected contour.²⁵ In the 2010 DAB Order, the Commission reiterated that its long-standing FM regulatory scheme is designed to protect the reception of analog FM signals within an area where those signals meet or exceed a specified minimum signal strength.²⁶ For Class A FM stations, this is the area within the predicted 60 dBu F(50,50) field strength contour. The Commission states that this approach is not intended to “ensure reception at every location” within this contour, and treats interference outside these protected contours as “not objectionable.”²⁷ Thus, Press’s concerns about potential interference are beyond the scope of this proceeding.

That said, NAB recognizes that use of the proposed digital power formula may lead to some valid interference complaints. Fortunately, in the 2010 DAB Order, the Commission established detailed, effective procedures for remedying digital-to-analog interference complaints that it states “will continue to suffice to handle” such situations.²⁸ The procedures are triggered by verifiable listener complaints and require stations to cooperate to confirm and attempt to eliminate any interference.²⁹

NAB disagrees with commenters seeking fundamental changes to the Commission’s remediation procedures, such as a new process that would rely on a quantitative standard for discerning interference instead of complaints by listeners.³⁰ The Commission has stated, in the context of LPFM service, that a “particular listener’s perception of signal impairment is dependent on many factors, including the receiver used, the programming, listener sound

²⁵ NPRM at ¶ 19.

²⁶ 2010 DAB Order, 25 FCC Rcd at 1191-92.

²⁷ *Id.*

²⁸ NPRM at ¶ 16.

²⁹ 2010 DAB Order, 25 FCC Rcd at 1193.

³⁰ Comments of Aaron Read at 1-2, MB Docket No. 22-405 (Jan. 10, 2023); Comments of Communications Telecommunications at 5-7, MB Docket No. 22-405 (Sep. 19, 2023).

quality expectations, and listener auditory discrimination capabilities. As a result, we are reluctant to adopt a single ‘objectionable interference’ standard.”³¹ This conclusion concept applies equally to claims of digital-to-analog interference.

EMF explains that listener complaints are an integral part of determining if interference exists because “mathematical formulas alone cannot provide a true equivalency to the real-world listener experience.”³² EMF states that it is impossible to account for every possible scenario or variable that contributes to interference, therefore, mathematical formulas must reflect a variety of assumptions related to presumed receiver quality, antenna height, terrain, and other potential factors. EMF also notes that quantitative studies are also susceptible to misuse that can lead to unnecessary conflicts.³³ In other words, there is no substitute for the actual experiences of listeners when determining the presence of digital-to-analog interference under real-world conditions.

Upgrading a digital station’s power level pursuant to the proposed formula may require a substantial investment, as some stations may need to build or purchase a new transmitter, or relocate operations to a different transmitter site, and incur other costs. Before making that investment, NAB believes it would be reasonable to provide broadcasters with a degree of long-time certainty. Thus, we endorse EMF’s call for a one-year window in which interference objections against a digital station that has increased power under the proposed formula may be raised.³⁴ Stations increasing power would be fully responsible for remedying verified complaints of interference for this period of time, and

³¹ *Creation of a Low Power FM Service*, Memorandum Opinion and Order, 15 FCC Rcd 19208, 19233 (2000).

³² EMF Comments at 2.

³³ *Id.*

³⁴ *Id.* at 6.

thereafter required to provide technical assistance to complainants to remedy interference. This approach will help ensure that stations carefully study and choose power parameters that minimize the risk of potential interference to adjacent channels, create incentives for adjacent channel stations to promptly file valid complaints, and reduce a digital station's exposure to ongoing financial liabilities. Overall, this approach will increase the predictability of a digital station upgrade for all stakeholders.

B. Superpowered FM Stations Should be Permitted to Use the Proposed Updated Digital Power Formula Without Special Restrictions

In comments on the Power Increase Petition, REC Networks argued that previously authorized superpowered FM stations should not be allowed use the proposed new formula because this would allow such stations to exceed the maximum power level for its class, resulting in harmful interference.³⁵ The Commission apparently agreed, proposing in the NPRM to limit the power level of superpowered FM stations to the station's class maximum, and allowing superpowered stations seeking to increase digital power above -14 dBc to seek experimental authorization on a case-by-case basis.³⁶ iHeart explains, and NAB agrees, that this approach is overly restrictive and runs counter to the Commission's goal of promoting a robust digital radio service. NAB supports iHeart's request that superpowered FM stations should be able to use the updated digital power level formula like any other stations, subject to reasonable conditions.³⁷

In subsequent comments on the NPRM, REC Networks takes a modified approach, offering support for "some form of opportunity" for superpowered FM stations to make use

³⁵ Comments of REC Networks at 3-4, MB Docket No. 22-405 (Jan. 11, 2023).

³⁶ NPRM at ¶ 20 citing 47 CFR § 73.205(a).

³⁷ iHeart Comments at 7-9.

of the proposed formula and increase digital power where appropriate.³⁸ NAB appreciates REC Networks' further consideration of this issue. REC Networks correctly observes that, unlike other stations, which have a blanket digital power authorization of -14 dBc (total digital power), superpowered FM stations operate at a blanket authorization of -20 dBc,³⁹ and therefore, an extended table of maximum permissible FM digital ERP should be developed based on the same formula as the tables offered by Xperi and NAB, but extending downward to -20 dBc.

NAB supports this idea and offers a modified version of the table presented by REC Networks, corrected to reflect per-sideband power and removing the distinction between symmetric and asymmetric operation as discussed in Appendix 1 of Xperi and NAB's joint comments:⁴⁰

Superpowered IBOC Station's F(50,10) Field Strength at the Upper or Lower First-Adjacent Station's 60 dBu F(50,50) Contour	Superpowered Permissible FM Digital ERP for the Respective (Upper or Lower) Sideband
64.0 dB μ	-23 dBc
63.0 dB μ	-22 dBc
62.0 dB μ	-21 dBc
61.0 dB μ	-20 dBc
60.0 dB μ	-19 dBc
59.0 dB μ	-18 dBc
58.0 dB μ	-17 dBc
57.0 dB μ	-16 dBc
56.0 dB μ	-15 dBc
55.0 dB μ	-14 dBc
54.0 dB μ	-13 dBc

³⁸ Comments of REC Networks at 25, MB Docket No. 22-405 (Sep. 21, 2023).

³⁹ As established in the 2010 DAC Order, maximum permissible FM digital ERP for superpowered stations is limited to the higher of -20 dBc (total digital power) or 10 dB below the maximum analog power that would be authorized for the class of the superpowered station adjusted for the station's antenna height above average terrain. See 2010 DAB Order, 25 FCC Rcd at 1188.

⁴⁰ This table coincides with Xperi and NAB Comments, Appendix 1, Table 1.

If the FCC allows superpowered FM stations to use the new formula for establishing maximum FM digital ERP, NAB suggests that a separate superpowered FM table, similar to the one above, be included in the rules, in addition to a table for non-superpowered FM stations. This should help avoid confusion by broadcasters and highlight the difference in blanket authorized power level between superpowered and non-superpowered stations.

As iHeart notes, “the studies, field evaluations, and proposed power formula all provide the basis for protecting first-adjacent stations from objectionable interference, and because the formula is D/U contour based, it works equally for all stations of all classes, including superpowered FM stations.”⁴¹ In fact, some of the so-called worst case” short-spaced IBOC operations that Xperi analyzed are superpowered stations, none of which resulted in interference to first-adjacent stations.⁴² NAB submits that the approach described above will allow superpowered FM stations to use the proposed updated power formula under reasonable terms where appropriate, without increasing the risk to other FM radio stations.

C. Claims of Potential Interference by Secondary and Non-Broadcast Services that Operate in the FM Band Should Not Affect Approval of the NPRM Proposals

Santiam Community Radio contends that HD Radio stations should not be allowed to interfere with established listener patterns of LPFM stations.⁴³ REC Networks offers a more reasonable view based on its findings that, despite anecdotal concerns from LPFM stations about interference from first-adjacent digital stations, it has “not seen much supporting

⁴¹ iHeart Comments at 7.

⁴² *Id.* at 9 citing Power Increase Petition at Appendix 1, Slides 9, 10, 12, 14-18.

⁴³ Comments of Santiam Community Radio Corporation at 1, MB Docket No. 22-405 (Sep. 20, 2023).

documentation that states that the issues that real-world LPFM stations are experiencing are actually related to DAB operation as opposed to just general interference received as a result of first-adjacent channel spacing between the stations.”⁴⁴

Although NAB appreciates the valuable, hyper-local programming that some LPFM stations provide,⁴⁵ the Local Community Radio Act of 2010⁴⁶ and the Commission’s rules clearly dictate that secondary services are not entitled to protection from interference from full-service stations.⁴⁷ In the 2010 DAB Order, the Commission stated that the creation of HD Radio did not create any additional rights for secondary services related to digital operations by full-service stations.⁴⁸ It also noted that, unlike full-service stations, LPFM stations have the flexibility to operate at locations where they may “accept” interference from other stations, which enables the licensing of LPFM stations that would not be possible for full-service stations. Thus, to the extent that LPFM stations are at risk of receiving interference, “it is generally the result of voluntary decisions by LPFM licensees.”⁴⁹ The Commission found that it would be “both unfair and at odds with secondary service licensing principles to deny a full-service station additional digital power based on the potential of increased interference to an LPFM station.”⁵⁰ These limits on LPFM operations remain unchanged under the current NPRM proposal to update the digital radio power formula to allow more digital stations to better replicate their analog coverage.⁵¹

⁴⁴ REC Networks Comments at 3.

⁴⁵ *Id.* at 8-9.

⁴⁶ Pub. L. 111-371, 124 Stat 4072 (2011) (LCRA).

⁴⁷ NPRM at ¶ 1; see *generally* 47 CFR §§ 73.807-09.

⁴⁸ 2010 DAB Order, 25 FCC Rcd at 1191.

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ iHeart Comments at 6; CMG Comments at 4.

The Commission also asks whether implementing the NPRM's proposals may harm non-over the air services that use frequencies in the FM band, such as cable broadband providers,⁵² in response to claims by Charter that allowing more digital radio stations to increase power could affect its broadband cable systems.⁵³ NAB submits that such concerns are unfounded, provided that a broadband system is functioning properly. Copper-based coaxial cable television distribution remains commonplace in the United States and operates within a closed system designed to prevent both signal egress and ingress. These cable systems also deliver broadcast signals, both radio and television, but use their own frequency allocation scheme that is incompatible with the FM radio service.

To our knowledge, there are several channels transmitted within the FM band that broadband providers operate, subject to strict shielding requirements to prevent signal leakage (egress) that may cause harmful interference to safety services as well as over-the-air reception of FM and TV stations.⁵⁴ If a cable/broadband system is functioning properly and compliant with the Commission's signal leakage requirements, the same shielding and other precautions that prevent cable signals from leaking out and interfering with FM stations should work both ways, protecting cable/broadband systems from ingress of FM radio signals into their distribution system. Moreover, cable/broadband systems are already designed to tolerate FM radio stations at power levels that far exceed those of the highest power FM stations in the U.S. The additional amount of digital power that would be allowed

⁵² NPRM at ¶ 14.

⁵³ Letter from Maureen O'Connell, Vice President, Regulatory Affairs, Charter Communications, to Marlene H. Dortch, Secretary, FCC, MB Docket No. 22-405, at 1 (July 28, 2023).

⁵⁴ See *generally* 47 CFR §§ 76.610-620, 76.615(a)(12), 76.1706, 76.1803-1804; see also <https://www.fcc.gov/consumers/guides/cable-signal-leakage>.

under the NPRM proposals is approximately 0.2 dB (less than 5%), and should be insignificant to any cable/broadband system that uses standard RF shielding and suppression techniques. Broadcasters must not be responsible for poorly maintained cable systems.

IV. BROADCASTERS AND AVIATION STAKEHOLDERS ARE WORKING COOPERATIVELY TO ADDRESS CONCERNS THAT DIGITAL RADIO SIGNALS MAY AFFECT SERVICES IN THE AERONAUTICAL RADIONAVIGATION SPECTRUM

Aviation stakeholders have expressed concerns about potential interference from digital FM stations to receivers in the aeronautical radionavigation spectrum (ARNS) operating on frequencies above 108.0 MHz.⁵⁵ As a preliminary matter, it should be noted that FM stations have been permitted to operate with digital facilities since 2002, and permitted to increase power to the levels proposed in the NPRM since 2010. Yet, NAB is not aware of any reports of interference to navigational aids (NAVAIDs) receivers from FM digital radio transmissions during this 12-year period.

Broadcasters take seriously GAMA's statement that "preliminary analyses [suggest] a sufficient potential threat of harmful interference to the foregoing aeronautical systems at or near airports resulting from the proposed increased power limits to warrant further exploration and refinement of the potential analyses assessing impacts from the proposed rules, as well as testing."⁵⁶ NAB, GAMA, and other aviation stakeholders (Aerospace Industries Association, Garmin International, Inc., Airline Pilots Association) are currently working cooperatively to explore this matter. NAB has also met with representatives of the

⁵⁵ See, e.g., Letter from Jens C. Henning, VP Operations, General Aviation Manufacturers Ass'n, to Ms. Marlene H. Dortch, Secretary, FCC, MB Docket No. 22-405 (Sep. 13, 2023) (GAMA Letter).

⁵⁶ *Id.*

Federal Aviation Administration and the National Telecommunications and Information Administration to discuss this issue.

NAB submits that any potential for interference to NAVAID receivers is confined to the small subset of digital FM stations that operate on 107.9 MHz, and deliberations about this distinct situation should not affect or delay the Commission's consideration of the central proposals in the NPRM. GAMA seems to support this view, as its letter attaches a list of FM stations, LPFM stations, and FM translator and booster stations operating on 107.9 MHz and located within 40 miles of "VHF Navaid" stations operating on 108.5 MHz and below.⁵⁷

The limited nature of this concern also makes sense because, as GAMA observes, FM digital stations on 107.9 MHz would place "digital sidebands [that] extend 100 kHz into the ARNS band up to 108.1 MHz."⁵⁸ Thus, under certain conditions, co-channel or near-co channel interference could be expected to NAVAID receivers tuned to 108.0, 108.05, 108.1, and 108.15 MHz. According to the Federal Aviation Administration (FAA), "The frequencies 108.10/979 MHz and 108.15/1105 MHz are specifically designated for radio navigation test generators (ramp testers) and shall not be used for operational [Instrument Landing Systems] ILS and [Distance Measuring Equipment] DME facilities."⁵⁹ Similarly, 108.0 and 108.05 MHz are not to be used for operational VHF Omnidirectional Radio Ranger (VOR) facilities.

⁵⁷ *Id.* at Attachment A.

⁵⁸ *Id.* at 1.

⁵⁹ FAA, Order 6050.32B, *Spectrum Management Regulations and Procedures Manual* (Nov. 17, 2005) (FAA Manual), at 61, available at https://www.faa.gov/documentLibrary/media/Order/6050_32B_WITH_CHG_1_AND_2_INCORPORATED.pdf.

GAMA's list of potentially affected ARNS frequencies confirms that the FAA does not currently assign frequencies below 108.2 MHz for NAVAIDs; thus, there does not appear to be a meaningful or imminent risk of co-channel or near-co channel interference to NAVAIDs. However, NAB recognizes that broadcasters have no control over the use of frequencies assigned to other services, including NAVAIDs in ARNS and it is important for the FAA, FCC and broadcasters to be aware of this potential interference conflict.

To account for the possibility of interference to NAVAIDs operating below 108.2 MHz if the FAA reverses course and starts to assign frequencies in this range, NAB offers some possible options. Stations operating on 107.9 MHz seeking to use the proposed new formula to increase digital power could be required to submit a statement to the Commission from an airspace consultant confirming that no impacts are expected to NAVAIDs. Alternatively, or in addition, the Commission and the FAA could work together to establish a notification and coordination process that would allow the FAA to review proposed new or modified digital operations on 107.9 MHz for predicted interference to NAVAID stations, before such modifications could be implemented. Such a process would be consistent with the interagency coordination that has existed for several decades.

NAB understands that a process already exists in which the FAA is notified of new FM stations or technical changes to FM stations and conducts an interference analysis using specialized software called the Airspace Analysis Model (AAM).⁶⁰ The AAM is a tool that helps evaluate the effects of FM broadcast signals on various aeronautical services in the ARNS. NAB is uncertain if this notification process and/or the AAM apply to digital FM radio facilities. If not, the analysis and testing already underway by the aviation stakeholders

⁶⁰ FAA Manual at 264-65.

should help identify the conditions under which interference may occur to NAVAID stations and inform whether any changes to the notification process or AAM are needed.

NAB's goal is to submit a joint proposal with the aviation stakeholders that addresses their interference concerns without unreasonably impeding the launch or expansion of digital radio service. We also respectfully request that, regardless of how the Commission proceeds on the matter of potential interference to receivers in the ARNS, the general proposals in the NPRM should be considered on a separate track. Such an approach will allow digital FM stations operating on 99 of the 100 designated FM broadcast channels to promptly bring the benefits of enhanced service under the proposed power formula to as many listeners as possible, in the event that resolving the issue of potential interference to NAVAID receivers takes additional time.

V. THE RECORD SUPPORTS THE PROPOSAL TO GRANT BLANKET AUTHORIZATION OF ASYMMETRIC SIDEBAND OPERATIONS FOR DIGITAL FM STATIONS

The Commission proposes to allow digital FM stations to originate transmissions at different power levels – asymmetrically – on the upper and lower digital sidebands without having to request experimental authorization.⁶¹ Currently, digital FM stations must use the same power level on both sidebands, limiting both to the power output needed to protect the nearer of the adjacent channel analog stations, foregoing improved signal quality and reach that might be achieved by operating with greater power on the other sideband.⁶² NAB and other broadcasters have explained that permitting asymmetric sideband operations will

⁶¹ NPRM at ¶ 12.

⁶² FM digital broadcasters are able to operate asymmetrically under experimental authority, but this is problematic for broadcasters due to the inherent uncertainty and bureaucratic burdens associated with experimental operation.

help more stations optimize service for the benefit of listeners, without causing interference to adjacent channels.⁶³

Commenters uniformly support this change.⁶⁴ The Joint Radio Commenters note that several of its members have been granted experimental authorizations by the Commission to operate with asymmetric sidebands, all of which produced positive results.⁶⁵ They experienced improved signal quality at the fringes of their service areas as well as inside buildings, and noticeably better coverage and stability of their digital signals.⁶⁶

Importantly, none of the stations operating with asymmetric sideband power levels have received any interference complaints from other stations, even after years of operation.⁶⁷ Given this well-documented record of success, and lack of objections in the record, NAB requests that the Commission permit the routine use of asymmetric sidebands, without an obligation to request experimental authorization.

VI. CONCLUSION

For the reasons stated above, NAB respectfully requests that the Commission approve the proposals in the NPRM that will further advance the development of digital

⁶³ Asymmetric Sideband Petition at 8-9.

⁶⁴ See, e.g., Comments of Communications Technologies at 8, MB Docket No. 22-405 (Sep. 20, 2023); Comments of NPR at 2, MB Docket No., 22-405 (Sep. 20, 2023); Comments of Cumulus Media at 6, MB Docket No., 22-405 (Sep., 20, 2023).

⁶⁵ Joint Radio Commenters Comments at 5.

⁶⁶ *Id.* at 5-6.

⁶⁷ *Id.*

radio broadcast service without causing harmful interference to existing services.

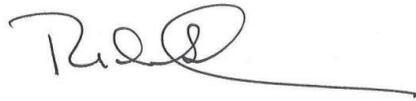
Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Rick Kaplan", with a long horizontal line extending to the right from the end of the signature.

Rick Kaplan

Larry Walke

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Dated: October 6, 2023