

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC**

In the matter of:)
)
Amendments of Parts 73 and 74 of the) RM-11909
Commission's Rules to create a second class)
of service for Low Power FM broadcast)
Stations.)

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REPLY COMMENTS OF REC NETWORKS

I. INTRODUCTION

1. REC Networks (“REC”) is a leading advocate for a citizen’s access to spectrum with a heavy focus on Low Power FM (LPFM) broadcast stations and the author of the above captioned *Petition for Rulemaking* (“Petition”).¹

II. COMMUNITY SUPPORT FOR SIMPLE250 IS OVERWHELMING

2. Throughout this proceeding, hundreds of comments were posted by the true owners of our finite spectrum, the people. We have also heard from LPFM stations across this country showing their support. Even stations that can’t upgrade acknowledge that for many rural and a some urban LPFM stations, the upgrade to LP250 would enable their programming to reach their community with greater success.²

3. *Access to education.* We have heard from community colleges that can use LP250 to reach current and potential students in their surrounding rural areas to encourage the use of the school’s services, such as the library.³

4. *Reaching underserved rural communities.* Some stations have told us about how their rural areas are underserved by not just media but also by broadband services.⁴ We have heard from listeners in rural areas that, because of terrain and other factors are unable to hear the LPFM station in the hyperlocal community they connect with.⁵ WSFT-LP in Eau Claire,

¹ See also *Petitions for Rulemakings Filed*, Public Notice, Report No. 3175 (rel. May 24, 2021).

² PhillyCAM (WPPM-LP) comments at 1; Jeff Sibert (KPPS-LP) at note 1.

³ East Mississippi Community College (WGTC-LP) comments at 1.

⁴ John Ellis (KORC-LP) comments at 1.

⁵ John Morehouse (listener of KPHT-LP) comments at 1; Cambridge Community Radio (WHCP-LP) at 4; Media Alliance at 3.

Michigan, a rural farming community broadcasts in Spanish to a considerable audience of farm workers and their families.⁶ To their audience, WSFT-LP is a lifeline.

5. *Areas with limited local media.* We have heard from Umpqua Watersheds in Washington state, which operates KQUA-LP, a station that provides local news and information in an area where most of the stations are centered on the communities about 60 miles away.⁷ Instead, KQUA-LP focus on talk programming that pertains to their community, especially on the topics of conservation, restoration and education about the natural world. Being in a rural, spread-out area, KQUA-LP has many reception challenges that can be improved with LP250 in order to bring first “hyperlocal” transmission service to more local residents of their community.⁸

6. *Areas with geographic challenges.* In some remote areas, the LPFM station is the only service available. WVBI-LP, Beaver Island, Michigan, located on the most remote island of Lake Michigan is the island’s only transmission service.⁹ Because of the size of the island, the LP100 signal is not strong enough to reach all areas of the island.¹⁰ As the only local transmission service, the community has come to depend on WVBI-LP for emergency communications, especially in the winter months when air travel is the only link from the island to the mainland.¹¹

7. *Engagement with the community.* LPFM is about community. Stations like KUZU-LP, Denton, Texas currently have over 100 volunteers and is able to maintain a full-time

⁶ Alcides Miranda (WSFT-LP) comments at 1.

⁷ Umpqua Watersheds comments at 1-2; Dean Middleton (KOCF-LP) comments at 2.

⁸ See also Dixie Newman (KWVH-LP) at 1.

⁹ Preservation Association of Beaver Island, WVBI-LP (“PABI”) comments at 1.

¹⁰ See *Id.*

¹¹ *Id.* at 3.

all-local broadcast service.¹² WRJM-LP, Cullman, Alabama also engages its community with a wide variety of local programming and involvement in local community events.¹³

8. *Being there in a time of need.* During natural disasters and other emergencies, LPFM stations step up to the plate. Stations like KBUU-LP, Malibu, California maintain good relationships with local government agencies as a part of the area's emergency plan. During the Woolsey Fire, that destroyed hundreds of homes in Southern California, KBUU-LP, in isolated Malibu, California remained on the air and was providing emergency information while residents and visitors to the beach community were evacuating. KBUU-LP would eventually go off the air because the power lines leading to the transmitter site were destroyed. The transmitter site was spared. Because of their service to the community, KBUU-LP was provided a grant to install a high speed data network from the studio to the transmitter. The excess bandwidth on that network will also be available to the City of Malibu and the local school district. The grant was also used to construct solar power at the transmitter site thus making the station less dependent on Southern California Edison and would have a better chance of staying on the air if another fire was to happen.

III. ASSURING THE ABILITY FOR ALL ELIGIBLE STATIONS TO UPGRADE

9. In REC's *Comments*, we had mentioned that there will be some situations where two stations would be able to upgrade to LP250, however, due to distance separation, if two stations attempt to upgrade, their applications would be mutually exclusive.¹⁴ Oregon Amateur Radio Club also supports such ability, especially if it can be shown that there is intervening terrain between the two LPFM stations.¹⁵ As we have previously identified, there are seven

¹² Real Waves Radio Network (KUZU-LP) at 1.

¹³ Cullman Community Radio (WRJM-LP) at 1.

¹⁴ REC comments at 7-9 and Appendix C.

¹⁵ See Oregon Amateur Radio Club ("OARC") comments at 2. Also, at *Id.* in para. 3, we must clarify a possible misunderstanding by OARC in our *Petition for Rulemaking* where they question whether LP100 stations would be required to reduce power. There was also confusion in the trade media regarding REC's proposal regarding locations with very high height above average terrain (HAAT). LP100 stations operate with a field strength contour of 5.6 kilometers (*see* 47 C.F.R. §73.811(a)). The Rules also state that LPFM stations will not be licensed for less than one watt (*see Id.*). One watt at 451 meters HAAT is a service contour of 5.599 km. At 452 meters HAAT, field strength would exceed 5.600 kilometers (470

groups of LPFM stations that meet the minimum distance separations between all non-LPFM stations but are in a situation where both stations can't upgrade, but only one can.¹⁶ In these seven rare situations to get us through implementation of the service, we would request waivers on a case-by-case basis so both stations can mutually agree to accept each other's "interference" and operate on a short-spaced basis.¹⁷ REC is already aware of one station pair that is ready to make that request if given the ability.

IV. LP250 WILL ALLOW LPFM STATIONS IN LESS-CROWDED SPECTRUM AREAS TO GROW

3.5 miles is not hyperlocal enough for most of America

10. As we have said throughout the *Petition*, one size does not fit all where it comes to serving a community.¹⁸ While some places like Detroit, Philadelphia and San Francisco are densely populated and the scope of hyperlocal normally spans across several neighborhoods or "sectors" of those deep urban communities, for the rest of America, where population is more sparse, that land area expands well past the 3.5 mile nature of LP100.¹⁹ REC had mentioned Riverton's connections to Mardela Springs, Maryland located over 4 miles away.²⁰ Stations like

meters HAAT if distances are rounded to the nearest tenth). As there would be a higher power class of service (LP250) available, any newly proposed facility with a HAAT higher than 451 meters (470 if rounded to the tenth) would need to be LP250 as the contour would more than 5.6 but less than or equal to 7.1 kilometers. We note though that there are currently only two LPFM stations with HAATs exceeding 451 meters, WUIC-LP, Wallins Creek, KY (Facility ID No. 192958, 453 meters) and KCWG-LP, Crown King, AZ (Facility ID No. 133424, 736 meters). Therefore, any grandfathering would only impact those two LPFM stations. There would be no changes to any LP100 station regarding their ERP as all LP100 stations, except the two mentioned here are operating with service contours between 4.7 and 5.6 kilometers, pursuant to 47 C.F.R. §73.811. Under REC's proposed rules, an LPFM station proposing operation with a service contour of 5.7 (equivalent of 101 watts at 30 meters HAAT) to 7.1 kilometers (equivalent of 250 watts at 30 meters HAAT) must meet the distance separation requirements for an LP250 facility. We also note that both KCWG-LP (on their current channel and the channel authorized in File No. 0000150135) and WUIC-LP, both meet the proposed minimum distance separation to LP250 and therefore could easily upgrade to LP250 with the same facilities authorized.

¹⁶ REC Comments at Appendix C.

¹⁷ REC Comments at 7-9.

¹⁸ *Petition* at 8-11.

¹⁹ See *Id.*

²⁰ *Petition* at 11.

WRLY-LP are also in areas a little more spread out where many amenities and services are at the edge of or past the service contour of the station.²¹ In many cases, the rural LPFM station is the community's only local voice for local news and emergency information.²² For some rural areas, the ability to cover as much of their county is important. Stations like WTDA-LP, Williamston, North Carolina face this challenge with their limited LP100 signal in order to reach outlying communities in their county with news and emergency information.²³

LP250 is compliant with the *Local Community Radio Act of 2010*

11. As the Commission has previously determined, there is nothing in the Local Community Radio Act of 2010 ("LCRA")²⁴ that specifically sets any kind of power limits.²⁵ As previously noted by REC, there is nothing in the Congressional Record for the LCRA that would suggest that LPFM would be hard limited to 100 watts or a 5.6 kilometer service contour.²⁶ This is despite NAB's ongoing contention that there is some hard limit hidden inside of the legislation or that it was the specific will of Congress.²⁷ What was the will of Congress was to assure that minimum distances between LPFM and full-service stations would not be reduced (in the case of LP250, the spacing is actually *increasing*, especially in Simple250 with the respect of the "buffer zone")²⁸, continue providing protections on co-, first- and second-adjacent channels²⁹, prevent those with a "pirate past" from controlling an LPFM station³⁰, protect radio reading services³¹,

²¹ Steven L. White comments at 2.

²² Petition at 8-9. See also Common Frequency comments at 4.

²³ Martin County Tourism Development (WTDA-LP) at 1.

²⁴ Pub. L. No. 111-371, 124 Stat. 4072 (2011) ("LCRA");

²⁵ See, *Creation of a Low Power Radio Service*, Sixth Report and Order, 27 FCC 15402 *et. seq.* (2012) ("Sixth Order") at para 206. See also, Mike Friend comments at 1.

²⁶ Sixth Order at para. 206.

²⁷ NAB Comments at 7.

²⁸ LCRA §3(b)(1).

²⁹ LCRA §2(a).

³⁰ LCRA §2(b).

clarify the secondary and “equal in status” nature of LPFM and FM translator facilities³² and eliminate the third-adjacent channel protection requirements and add methods of remediation of any interference.³³ While the LCRA does not specify the “buffer zone” (which predates the LCRA), we agree that it can be part of the interference equation.³⁴ The minimum distance separations proposed for LP250 are simply the sum of the protected station’s service contour and the appropriate LPFM interfering contour based on standard maximums for their service classes.³⁵ The bottom line is that if Congress ever intended for LPFM stations to remain at 100 watts (5.6 km service contour) or less, then they should have specifically wrote that in statute, which they didn’t. Also, we must point out that the bill is called the **Local** Community Radio Act of 2010 and not the **Hyperlocal** (or “Neighborhood”) Community Radio Act of 2010.³⁶

V. THE NAB’S ONGOING CONSPIRACY CAMPAIGN IS GETTING OLD AND IS NOT APPLICABLE IN THIS PROCEEDING.

A. The “crowded spectrum” conspiracy theory

12. NAB continues to relish in this ongoing conspiracy theory that claims that LP250 would result in “further congestion” of the already crowded FM band, yet provides absolutely no technical data to support their claim. As we will discuss *infra*, contour overlap between commercial stations already exists because of the use of distance separation instead of contours

³¹ LCRA §4.

³² LCRA §5.

³³ LCRA §§ 3(a), 6 and 7.

³⁴ See also *Creation of a Low Power Radio Service*, Report and Order, 15 FCC Rcd. 2205, 2231 (2000) (“LPFM Order”) at ¶ 64. (“This buffer will help to protect FM radio facilities that were modified or upgraded in a manner that would create a short-spacing with an operating LPFM stations.”). Prometheus Radio Project at 3-4 endorses the ability for LP250 to penetrate the buffer zone as previously proposed by the Commission in the *Fourth Notice* (27 FCC Rcd. 3315 (2012)) and by REC in RM-11749. For the instant proceeding, REC takes a neutral position on the question of penetrating the buffer zone.

³⁵ For FM Translators, 47 C.F.R. §73.807(c) divides protections into three “sub-classes” based on the average service contour based on the translator’s effective radiated power and HAAT based on 8 radials. The current rules assume a FM Translator service contour of 7.3 km, 13.3 km and 20 km. Any “super powered” translators with a 20 km or larger service contour is treated as a 20 km contour.

³⁶ LCRA at §1.

in order to space stations apart.³⁷ The NAB does not seem to have any problem with that kind of spectrum crowding and interference as it would likely involve its own membership. If anything, it is REC and not the NAB that has been the most transparent in disclosing isolated incidents of interference with the upgrade to LP250 and as we will explain, that upgrades to LP250 *follow the same accepted standards that currently allow full-service commercial FM stations to be able to be spaced, without regard to contour overlap.*³⁸

B The “LPFM can’t follow the rules” conspiracy theory

13. The NAB continues to portray LPFM with a broad brush that those who are stakeholders in the service have no regard for the rules.³⁹ We must remind you that this is the same NAB that deceived Congress back in 2000 by providing each member with a compact disc apparently demonstrating what radio would sound like if LPFM stations were permitted to operate on third-adjacent channels of full-service stations.⁴⁰ In response to this deception, the Bureau Chiefs of the Office of Engineering and Technology and Mass Media Bureau released a statement describing this NAB ploy as “misleading engineering information about alleged interference from low power FM radio stations.”⁴¹

14. These so-called rules violations are not exclusive to LPFM. Over the past years, we have seen our share of pleadings and notices of violation involving unauthorized operation

³⁷ See also, Appendix E.

³⁸ See also 47 C.F.R. §73.209(a) (“Permittees and licensees of FM broadcast stations are not protected from any interference which may be caused by the grant of a new station, or of authority to modify the facilities of an existing station, in accordance with the provisions of this subpart.”) In other words, distance separation, pursuant to 47 C.F.R. §73.207. We also note, that 47 C.F.R. §73.209(c) extends the “non-protection” to include new and modified LPFM facilities.

³⁹ NAB Comments at 3.

⁴⁰ Ahrens, Frank, *D.C. to Get Low-Power FM Permits, if Program Survives*, The Washington Post (Mar. 28, 2000), retrieved July 6, 2021 at <https://www.washingtonpost.com/archive/business/2000/03/28/dc-to-get-low-power-fm-permits-if-program-survives/8d4184b3-af40-45b9-8ae3-60db9eb9cc8d/>

⁴¹ See *Statement of Dale Hatfield, Chief, Office of Engineering and Technology, and Roy Stewart, Chief, Mass Media Bureau Concerning Low Power FM Engineering Issues*, News Release (Mar. 24, 2000). A copy of this document is included in this filing as Appendix F.

and interference by full-service FM and FM translator stations.⁴² We even have seen cases where the negligence of a full-service FM station had resulted in the death of a listener. Perhaps “Mister Nabb” needs to purchase a glass house in Houston, which has been a hotbed for rules violations involving full-service FM stations and FM translators. The NAB can continue to generalize the *entire* LPFM service based on small number of situations, which NAB characterizes as “far too many” where rules violations have taken place. Did states and the U.S. Department of Transportation stop the increase of the speed limit above 55 miles per hour when it was known that “far too many” people received speeding tickets?

C. The new COVID-19 conspiracy theory.

15. In their ongoing effort to hop on trends, it now appears that NAB is trying to play the COVID-19 sympathy card in order to block LP250.⁴³ They claim that radio stations had to quickly reconfigure their systems to comply with social distancing guidelines and remote operations, newsgathering and reporting. It would be completely pathetic to assume that these reactions and precautions to protect and inform the local community were exclusive to full-service broadcast stations. At the start of the pandemic emergency, some LPFM stations were able to get waivers from the FCC to operate “above and beyond” in order to inform the public of emergencies.⁴⁴ In March, 2021, as part of a larger constituent survey of LPFM stations, REC did pose a question regarding stations operations in the wake of the pandemic:

⁴² In NAB Comments at 3, they cite a *Notice of Violation* against *Sucremedia, Inc.* (File No. EB-FIELDSCR-20-00031737 (Mar. 2, 2021)) where the transmitter was interfering with aviation frequencies. This specific incident involved a faulty transmitter, a transmitter that was certified and compliant with the rules (See also 47 C.F.R. §73.1660(a)(2)). What the NAB fails to mention that on the same day, Enforcement Bureau staff also issued a *Notice of Violation* to a commercial FM translator for a similar violation. (see *Cornerstone Broadcasting Corporation*, Notice of Violation, File No. EB-FIELDSCR-21-00031779 (Mar. 2, 2021)). We note that unlike LPFM, which has a transmitter certification requirement, FM translator stations are only subject to the honor system, otherwise known as the Supplier’s Declaration of Conformity and verification processes used for broadcast transmitters in all other radio services (see also 47 C.F.R. § 73.1660(a)(1), 47 C.F.R. Part 2, Subpart J).

⁴³ NAB Comments at 6-7.

⁴⁴ See File No. BSTA-20200409AAG (*Granted* Apr. 10, 2020, *ext’d* Jul 9, 2020, *ext’d* Oct 13, 2020) (increase effective radiated power from 14 watts to 50 watts to disseminate emergency information related to the COVID-19 pandemic.); See also File No. BLSTA-20200317AAI (*Granted* Mar. 18, 2020, *ext’d* Jun 16, 2020) (request for waiver of 47 C.F.R. §73.879 to rebroadcast on a part-time basis and if

8. What changes has your station made to policies regarding live programming and access to the main studio as a result of COVID-19?

DJs that were normally live at the station are now live streaming their shows to the station.	26.1%
DJs that were normally live at the station are now voice tracking their shows, the DJ selects the songs played and we integrate the voice tracks into the automation.	21.7%
DJs record their programming in their home studios and then upload the program to the station.	52.2%
We are continuing to permit DJs to come into the studio for their shows, but we are taking precautions.	56.5%
We have had to close our studio, except for essential reasons such as equipment maintenance.	8.7%
Our station does not have a main studio, even before COVID.	13.0%
None of the above.	13.0%

As the responses state, LPFM stations, like their commercial counterparts, also been fully involved in the COVID-19 response to the local community.

16. NAB further cites the economic downturn caused by the pandemic has severely impacted the radio industry and that advertising dollars which sustain radio were among the first business cuts when businesses contract during downturns.⁴⁵ They fail to recognize that LPFM stations were in a similar situation during the pandemic. Community-based LPFM stations that are supported by listeners and local businesses, which are not intending to advertise their mattress sales but instead, underwrite to be associated with the community station, have seen a massive decline in underwriting as local businesses have closed or have seen major declines in revenues as a result of city and state-imposed closures and other guidelines. To mention the economic situation of full-service radio without acknowledging similar downturns in the noncommercial educational segment is ludicrous.

17. The fact that some faith based LPFM stations do carry a national network to provide programming that is otherwise not available in their local area should not be any cause to

necessary, on a full-time basis, the signal of full-service station KCRW(FM), Santa Monica, California to better inform listeners in the Malibu area of COVID-19 related emergency information from Los Angeles County).

⁴⁵ NAB Comments at 6.

deny the entire LPFM service of an upgrade.⁴⁶ In fact, as shown in the constituent survey *supra*, many LPFM stations are carrying local content and even coming up with creative methods of program delivery to assure that, even during the pandemic, incumbent LPFM radio broadcasters were providing reliable access to news and information.⁴⁷ Again, this is the NAB blowing smoke and misleading the current Commission, similar to how they mislead Congress over twenty years ago on the value of locally-controlled and locally-programmed LPFM stations.⁴⁸

VI. FOOTHILL EFFECT AND LP250

18. Foothill Effect (commonly mistakenly referred to as “*foothills effect*”) is a phenomena that exists in both LPFM and the commercial full-service. Foothill Effect is where a station is located at a site which has very high terrain “behind” it and lower elevation “in front” of it. The very high height above average terrain (HAAT) calculations on the radials towards the populated valley areas are offset by the very low HAAT calculations on the radials towards the mountain ranges, resulting in a neutral HAAT calculation.⁴⁹ Because of that, Foothill Effect facilities will have a higher effective radiated power and a larger than usual coverage area into the valley below. As a result, LPFM and commercial FM stations with Foothill Effect are more

⁴⁶ See *Id.* We also note that many full-service FM stations are carrying many network programs on a part time or full-time basis. This is not something exclusive to LPFM.

⁴⁷ Even so-called “incumbent” full-service radio broadcasters do not always provide “reliable access to news and information”. See Lee, Jennifer S., *Media: On Minot, N.D., Radio, A Single Corporate Voice*, The New York Times (Mar. 31, 2003). Retrieved July 6, 2021 from <https://www.nytimes.com/2003/03/31/business/media-on-minot-nd-radio-a-single-corporate-voice.html>.

⁴⁸ See also 47 C.F.R. §73.853(b) (requiring only “local applicants” in the LPFM service); See also §73.872(b) (which awards points to applicants who pledge at least 8 hours per day of local program origination and the operation of a main studio for at least 20 hours per week, despite the absence of a main studio rule in full-service radio); See also *Sixth Order* at para. 162. (The Commission takes pledges seriously. We will consider complaints that a licensee is not making good on a pledge it made during the application process and take appropriate enforcement action if we find that a licensee has not followed through on its pledge.). Currently, there are over 60 LPFM stations that were processed through the point system and therefore subject to the pledges. A list of those stations can be found at <https://recnet.com/pledges>.

⁴⁹ See also 47 C.F.R. §73.313(d).

likely to result in a contour overlap with other stations, despite meeting minimum distance separation requirements.⁵⁰

19. In RM-11749, we specifically addressed Foothill Effect by proposing a “backstop”, where if an LPFM station had a very large service contour in a particular direction, they would have to submit a contour study to show that the expansion of the station to LP250 would not result in any overlap of the LP250 interfering contours with the protected service contours of any other incumbent facility.⁵¹ This concept was inspired by the case involving the application of *Razorcake-Gorsky Press* and the objections raised by Educational Media Foundation (“EMF”) in that proceeding.⁵²

20. REC acknowledges and actually concurs in part to EMF’s concerns in the instant proceeding.⁵³ There may be some cases where Foothill Effect LP100 stations will create new overlap or increase existing overlap at the LP250 service class.⁵⁴ We note, however, that there are many cases where Foothill Effect commercial full-service FM stations are currently operating with contour overlap between the two stations.⁵⁵

21. In the case of KQLH-LP, the station that EMF described in their opposition; this is one of only a few cases, nationwide, where an excessive Foothill Effect LPFM station would create or increase overlap with an already authorized facility. Because of the terrain, inside of the larger KQLH-LP service contour, some areas would continue to remain blocked, even at LP250. To address this terrain blockage, REC worked with KQLH-LP while requests for new FM Booster stations were processed on a case-by-case waiver basis, prior to their codification in MB Docket 19-193 to look for solutions to improve their signal in areas within their larger service contour that were still blocked by terrain. As a result, KQLH-LP was granted an FM

⁵⁰ See also 47 C.F.R. §§ 73.207(a), 73.807(a).

⁵¹ See REC *Petition for Rulemaking*, RM-11749 (Apr. 20, 2015) at 19-20.

⁵² See *Razorcake/Gorsky Press, Inc.*, File No. BNPL-20131114AXZ.

⁵³ EMF Comments at 2-6.

⁵⁴ See Appendices C and D.

⁵⁵ See Appendix E.

Booster in Highland, California.⁵⁶ After the codification of LPFM Boosters in MB Docket 19-193, KQLH-LP was granted a second FM Booster in Beaumont, California.⁵⁷ I have recently spoken to the principals at KQLH-LP, who have agreed that in their specific case, an LP250 upgrade would not be able to really help because of the additional terrain within service contour. However, not all Foothill Effect LPFM stations, especially those in rural or isolated areas are in the same situation. We have found that a considerable number of Foothill Effect stations are only in their situation because their signal would go through a mountain pass and as a result, only a small number of 360 radials would actually extend out a far distance.

22. Since the earth is not completely flat in terrain, many broadcast stations operating a nondirectional antenna will not have a perfect circle for their service contour. However, in the few extraordinary cases, such as KQLH-LP, we do agree that there should be some form of an outward limit on LP250 availability, such as restricting LP250 to any LPFM station that has 60 dBu service contour that does not exceed 20 km in any direction or upon a waiver request, can demonstrate that there is no contour overlap. Information about the specific stations that exceed a 20-kilometer peak LP250 service contour can be found in Appendix B. REC has identified 25 LPFM stations that if they were to upgrade at their current site on their current channel, would exceed a 20-kilometer peak service contour and of those, only *six* stations would create new or increased contour overlap if permitted to upgrade to LP250.⁵⁸

23. Our goal with every LP250 proposal that has ever come out of REC was to balance the improvement of the LPFM service, especially to deserving rural areas with the prevention of harmful interference. While REC agrees with EMF on their specific concerns regarding a specific station, KQLH-LP, we should not hold hostage, the hundreds of other LP100 stations that would otherwise be eligible for an upgrade because of the geographic situation of

⁵⁶ Facility ID No. 203661.

⁵⁷ Facility ID No. 755689.

⁵⁸ See Appendix B, Group No. 2

six LPFM stations, mostly in Southern California.⁵⁹ The burden of an added level of complexity will be made on only 25 stations and only if they wish to upgrade.

24. In an effort to keep the service “simple”, it is REC’s position that a web service, designed by the Commission as well as third parties can be developed that permit the search of a facility parameter will determine the LP250 peak service contour. With the availability of the FCC’s Contours API, this search tool can be easily built.⁶⁰ REC has already built a tool at <https://recnet.com/foothill> that uses the FCC Contours API to determine the peak contours. We note that LPFM applicants already consult other FCC websites in order to determine whether tower registration is required. It would not be a complexity to have an easy method of knowing whether the station would have a restriction. Again, at this time, this only impacts 25 LPFM stations across the country.

25. To address this, we can propose that the Commission can use *one* of the following three options to determine whether a Foothill Effect LPFM station could upgrade:

Option 1. LP250 proposals where the proposed 60 dBu service contour extends to 21 kilometers or greater in any direction, based on 360 equally spaced radials, must include a contour study that demonstrates that operation at LP250 would not create any new or increased prohibited contour overlap with any full-service FM or FM Translator facility on co-channel or first-adjacent channels. In this option, 19 of 25 stations could demonstrate a lack of overlap.

Option 2. LP250 proposals would not be acceptable for filing if based on 360 equally spaced radials, the 60 dBu service contour extends to 21 kilometers or greater along 20 or more consecutive radials. In this option, 10 of 25 stations could upgrade.⁶¹

⁵⁹ EMF does not specifically oppose the creation of LP250, they just want to assure that Foothill Effect situations, such as KQLH-LP, are specifically addressed. (EMF Comments at 2).

⁶⁰ <https://geo.fcc.gov/api/contours>.

⁶¹ KIHL-LP, Hilo, Hawaii has radials that extend past 20 km however, those radials are entirely over water. Therefore, this facility should be permitted to upgrade is there is no impact from excessive Foothill Effect on land.

Option 3. LP250 proposals would not be acceptable for filing if based on 360 equally spaced radials, the 60 dBu service contour extends to 21 kilometers or greater in any direction. In this option, none of the 25 stations could upgrade.

In order to strike a balance between the simplicity of LP250 and to address the spectrum integrity concerns related to excessive Foothill Effect, REC supports Option 2 as this would provide the most upgrade opportunities without having to utilize contour studies. Instead, this can be easily done using a tool based on the Commission's Contours API.

VII. CONCERNS REGARDING TV CHANNEL 6 RECEPTION

26. REC acknowledges the comments of ABC-Disney expressing concern regarding the implementation of LP250 and specifically on the reception of WPVI-TV, Philadelphia, Pennsylvania.⁶² Being just down the road from Philly, REC totally understands WPVI's situation. They are a legacy Channel 6 station that decided to remain on Channel 6 after the original DTV transition. After the repack, they were pretty much locked on Channel 6 with no other place to go.⁶³ Channel 6 and other low-band VHF TV stations have been experiencing many reception issues, especially given the latest trend of viewers "cutting the cord" and giving a new boon to over the air television reception. This has led to a new generation of receiver antenna designs, which are more favorable to UHF than it is to VHF low band.⁶⁴ This frustration by VHF television broadcast stations is evident by the uptick in *Petitions for Rulemaking* to amend the DTV Table of Allotments to change from VHF to UHF channels. Unfortunately, for WPVI, other than channel sharing, they really have no UHF opportunities.

27. Currently, LPFM stations operating in the reserved band (Channels 201~220, 88.1~91.9 MHz) are required to protect both full-service and low-power TV stations on Channel 6.⁶⁵ This protection comes through a distance separation table based on all 10 full-service

⁶² See Comments of ABC, Inc.

⁶³ See *Id.* at Note 6.

⁶⁴ See *Id.* at Note 7.

⁶⁵ 47 C.F.R. §73.825.

Channel 6 TV stations operating at 100 kW ERP at 610 meters HAAT (47 dBu service contour of 128.8 kilometers).⁶⁶ Recently, in MB Docket 19-193, the Commission granted REC's proposal to allow reserved band LPFM proposals that are "short spaced" to a Channel 6 TV station to be able to request a waiver of the distance separation rules if a contour study, consistent with §74.1205 can show that the LPFM proposal will not cause any overlap with the protected Channel 6 station and also require that the LPFM applicant notify the protected Channel 6 station of the application being filed.⁶⁷

28. WPVI is currently authorized 34 kW at 330 meters HAAT and has a special temporary authority to operate 56 kW at 332 meters HAAT, the latter resulting in a service contour 99.3 kilometers. This would mean that any reserved band LPFM proposal that is physically located within 130 percent of WPVI's 47 dB contour would need to demonstrate protection to WPVI.

29. In addition to the area around Philadelphia, New Jersey and New York being spectrum crowded in TV, it is also very crowded on FM. New Jersey is the birthplace of FM from the early Armstrong experiments from the famous Alpine Tower and because of the population density and large number of educational institutions in the area, there is a high concentration of full-service Class A noncommercial educational FM stations operating in the reserved band, many operating with powers on the lower side of Class A. All of those stations are protected by LPFM stations as if they were a 6 kW at 100 meters HAAT facility.

30. Because of the large concentration of NCE stations in this region, there are currently no reserved band LPFM stations anywhere in the state of Pennsylvania, New Jersey, Delaware, Maryland, Virginia and the District of Columbia. The only reserved band LPFM station in the state of New York is WAIB-LP, Redwood, located 295 miles from Philadelphia. Further, a REC CIRCLES study of available LP100 channels shows that in the next LPFM filing window, there will only be a very small area where a reserved channel may be available for an

⁶⁶ See *Creation of a Low Power Radio Service*, Memorandum Opinion and Order, 15 FCC Rcd. 19028 *et seq.* (2000) at note 47.

⁶⁷ See *Amendments of Parts 73 and 74 to Improve the Low Power FM Radio Service Technical Rules*, Report and Order, 35 FCC Rcd. 4115, 4128 (2020).

LPFM station in an area where they would have to protect WPVI and with a NCE filing window coming up, we are not sure whether those opportunities will still be there come November.

31. As there are currently no reserved band LPFM stations located anywhere near Philadelphia and the possibility for new LP100 stations near Philadelphia are extremely minimal, ABC-Disney should not need to be concerned about the outcome of this proceeding as it will have no impact on WPVI operations. We note that the methods that LPFM stations use to protect Channel 6 TV stations are no different than those currently used by FM Translators operating in the reserved band.

VIII. CONCLUSION

32. The broadcast spectrum is a shared resource. While it may be auctioned and sold like real estate, it is still owned by the people of this great nation. As a finite resource, it must be shared and utilized in an efficient manner. The people have spoken, and they are looking at improvement to their local radio services. For the past 20 years, LPFM stations have delivered that local service without the distractions of a larger more profitable city nearby or attracting high-value donors through wine clubs. LP250 will permit many LPFM stations, especially in underserved rural areas an additional boost they need to serve their hyperlocal communities, which is not a “one size fits all” definition.

33. We also recognized the role that LPFM stations have played in their community by providing a local voice and providing local news, weather and emergency information at a level that would be out of the purview of larger full-service stations. We also support efforts to assure that as many LPFM stations that wish to upgrade to LP250 can be accommodated with mutual agreement of both stations, even if both stations meet the minimum distance separations between LP250 and LP100 but do not meet the minimum distance separation requirements between two LP250 stations.

34. Simple250 responds to the Commission’s two main concerns that made them reluctant to adopt LP250. We have created an LP250 service that pretty much as simple as its existing LP100 counterpart. Despite the opposition’s concerns, LP250 will not crowd the band with a bunch of new stations, but instead, will better utilize the spectrum by incumbent LP100

stations that need to better serve their audience and bring first hyperlocal transmission service to more places in America.

35. We share EMF's concerns regarding a very small number of LPFM stations, that if allowed to upgrade, could increase interference. At the same time, we had to strike a balance with existing engineering and regulatory practices that are already well accepted in the full-service as well as in LP100. The "simple" option we provide will address the 15 LPFM stations with extremely large service contours while the rest of the country, which does not have the same terrain advantages like the Foothill Effect stations do to be able to grow.

36. We have also made a showing that the practices that we are proposing in Simple250 in respect to TV stations on Channel 6 are no different than the engineering practices and regulations that currently apply to FM Translator stations and have demonstrated that the implementation of LP250 will have zero impact on the 10 (soon 8) full-service Channel 6 TV stations currently on the air, and especially shows no impacts to ABC-Disney's WPVI, Philadelphia.

37. The time has come. The issues have been addressed. What we have here is a simple LP250 service that will improve the rural quality of life, something that is a high priority at the Commission. With that, we support the adoption of a *Notice of Proposed Rulemaking* to move forward an LP250 service class as originally proposed and slightly revised in this pleading. As always, REC is available to the Commissioners and their staff to answer any questions or address any concerns. The Commission and this administration has a great opportunity to be on the side of the people and to be on the side of rural America and therefore, be on the right side of history.

Respectfully submitted,

/S/
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July 6, 2021

APPENDIX A**LPFM AVAILABILITY STUDY FOR RESERVED BAND CHANNELS
(CHANNELS 201~220) IN THE AREA SURROUNDING PHILADELPHIA, PA
THAT WOULD BE REQUIRED TO PROTECT WPVI(TV).**

In this appendix, we include maps that were generated from the REC CIRCLES program based on data as of June 29, 2021. CIRCLES looks at all broadcast facilities on co- and first-adjacent channels and then draws a circle based on the station's service class and their §73.807 distance separation requirement.

In any area where there is color on the map, an LPFM station cannot be placed at that location. If there is no color and the regular map can be seen unobstructed, an LP100 station can be placed at that location.

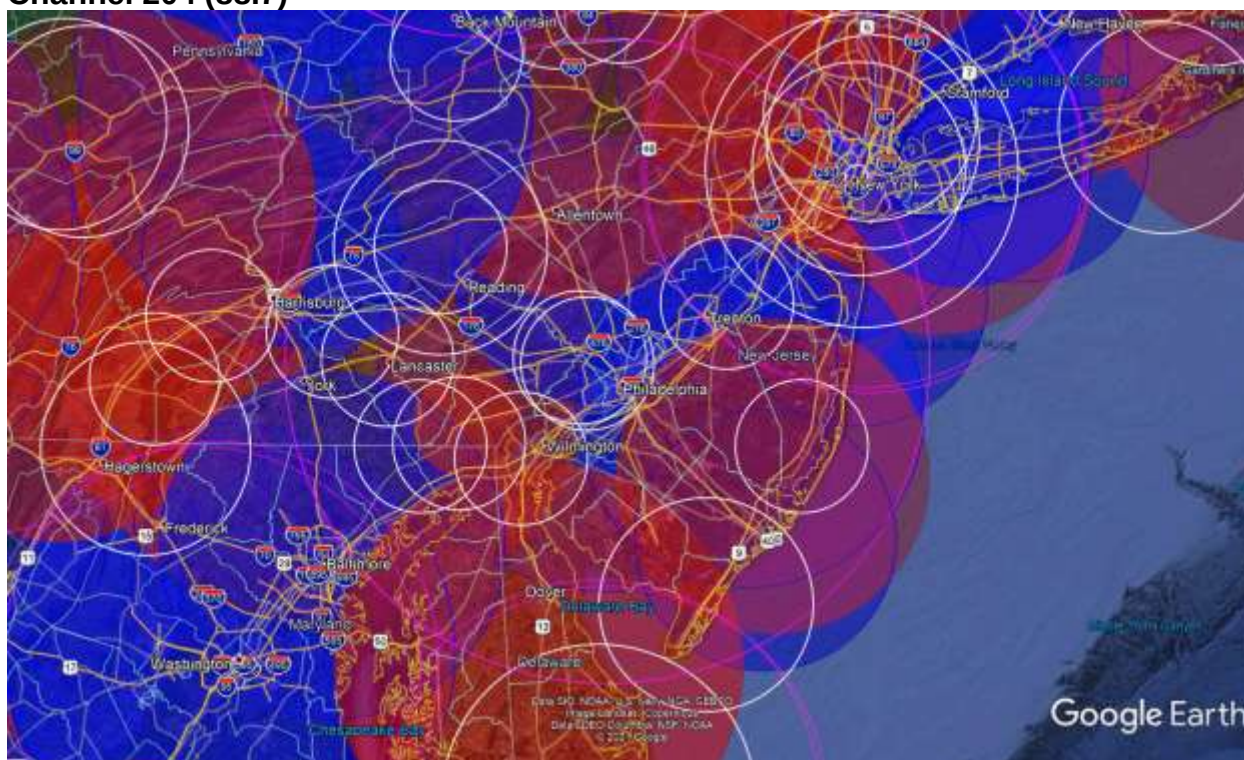
White circles indicate second-adjacent channels where if an LPFM was to be placed in that area, a second-adjacent channel waiver would be required.

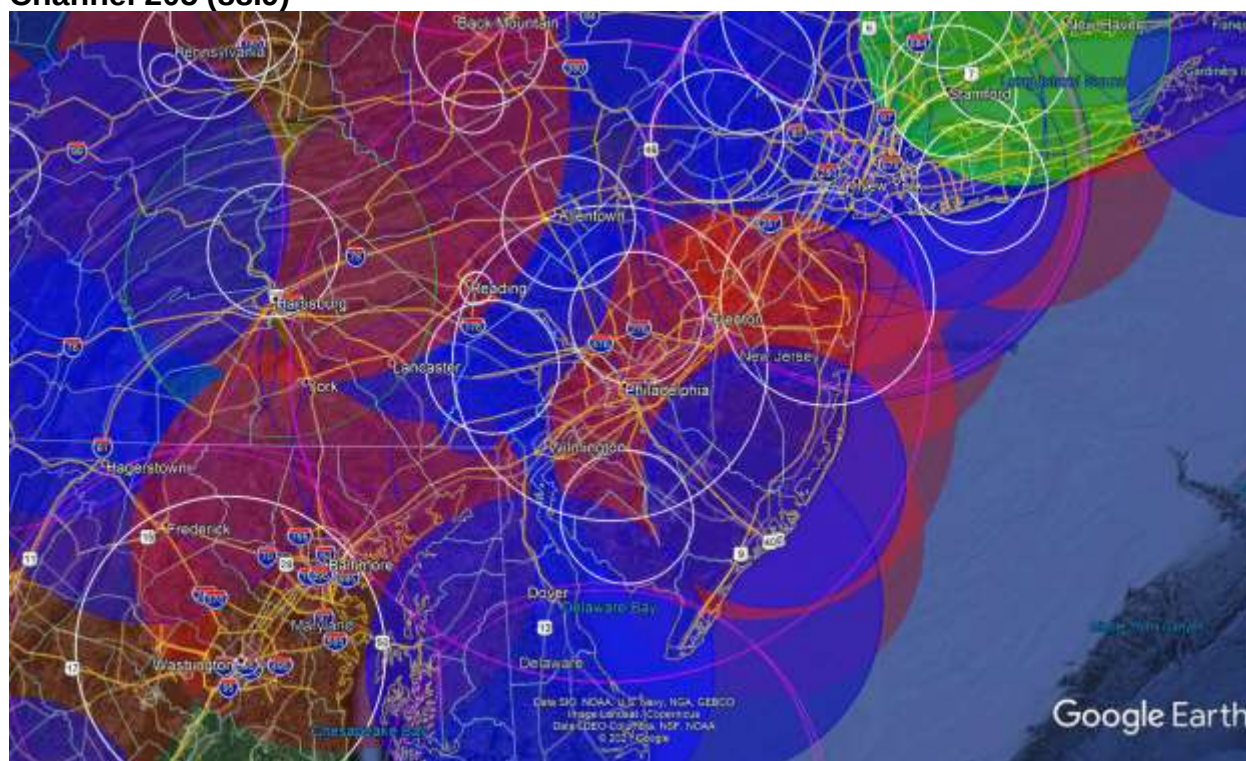
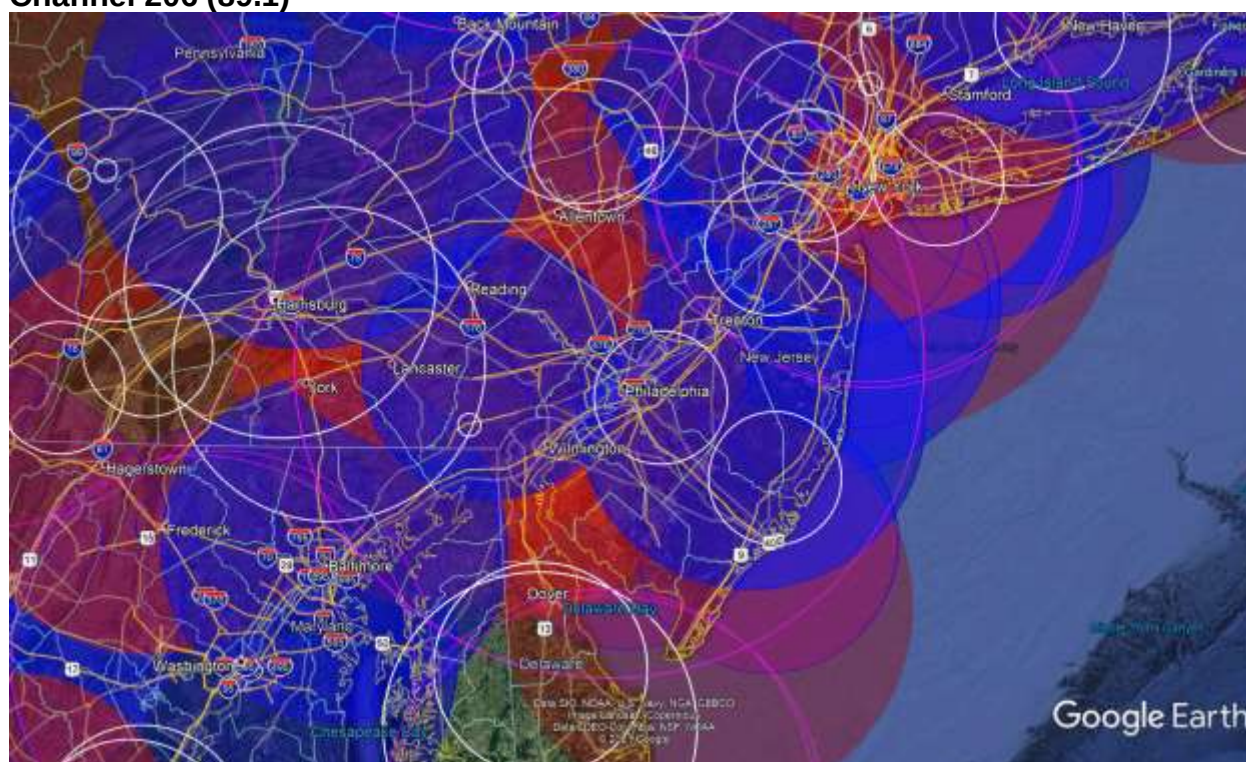
Violet circles indicate the radius where an LPFM station would not meet §73.825 minimum distance separation to a Channel 6 TV station. Any LPFM desiring to operate from that location would need to include a contour study to show protection in a manner consistent with §74.1205 for FM Translators.

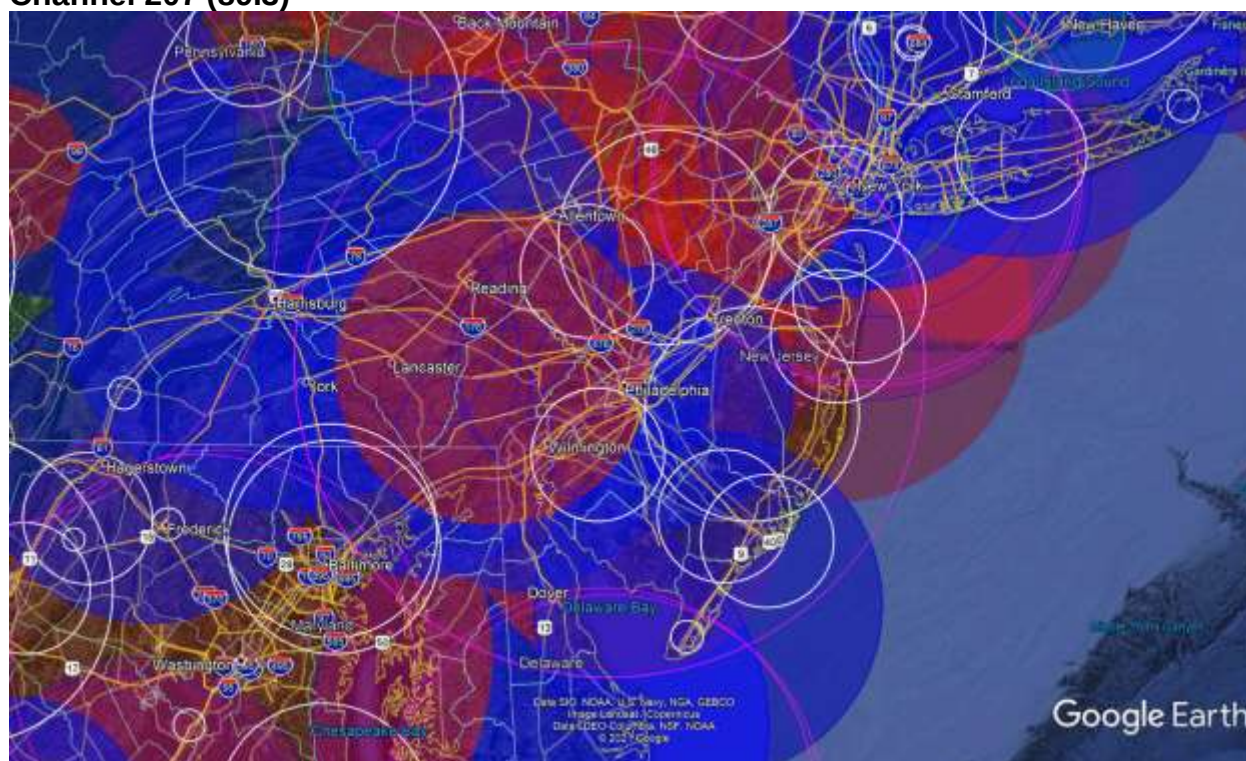
Each channel has its own CIRCLES map.

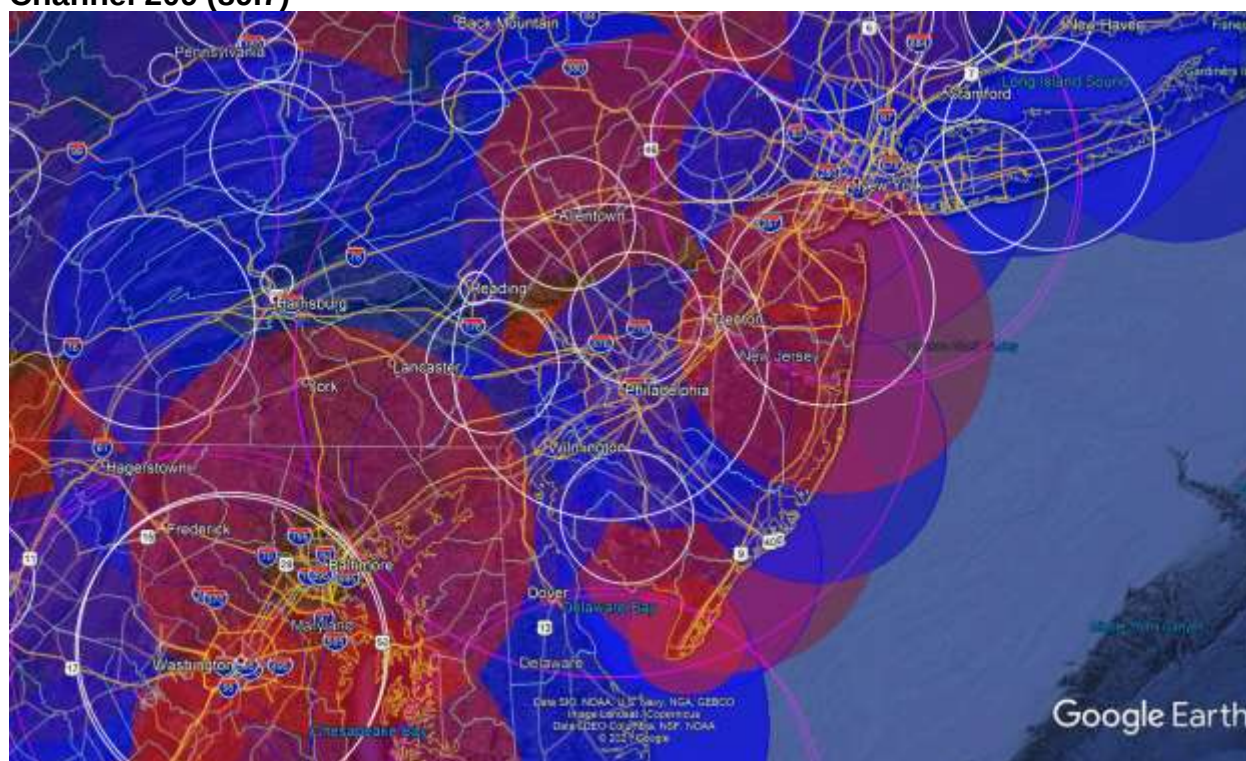
The following maps are centered around the Philadelphia, PA area and the protection area for WPVI(TV). Since §73.825 only impacts the reserved band channels (Channels 201~220), only those 20 maps are shown.

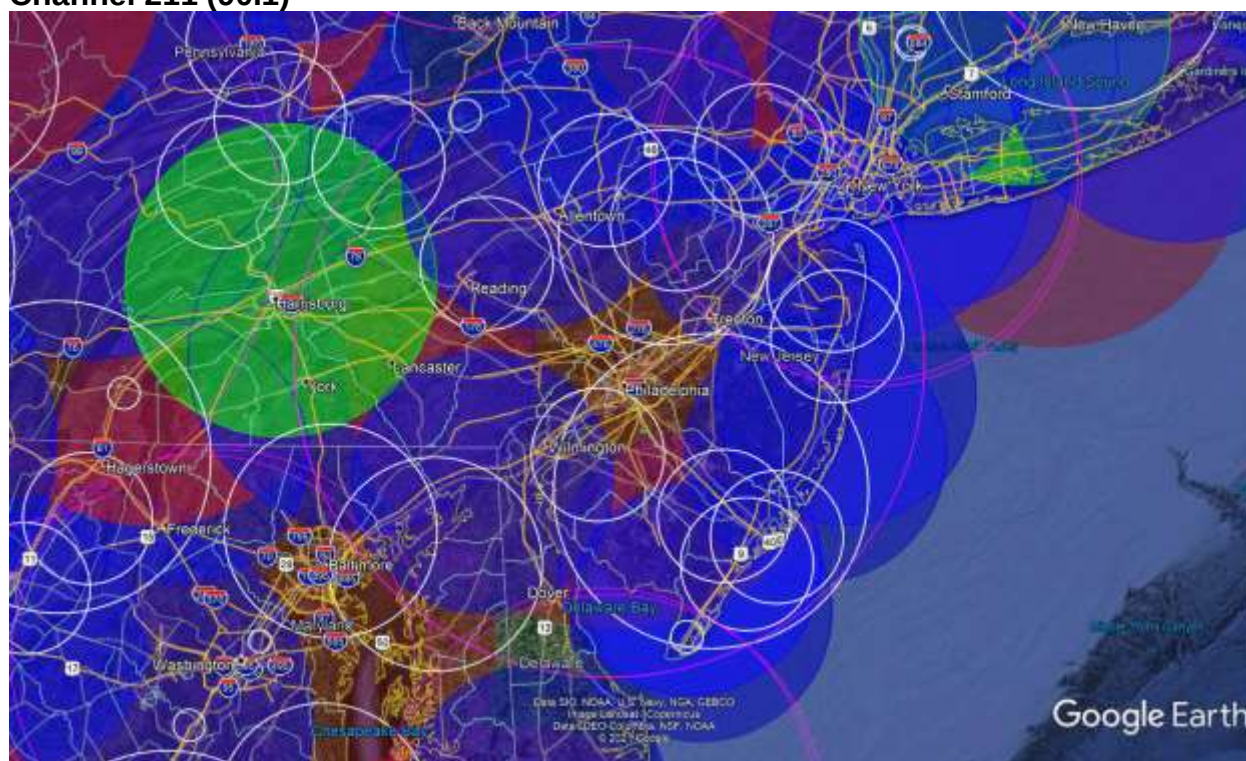
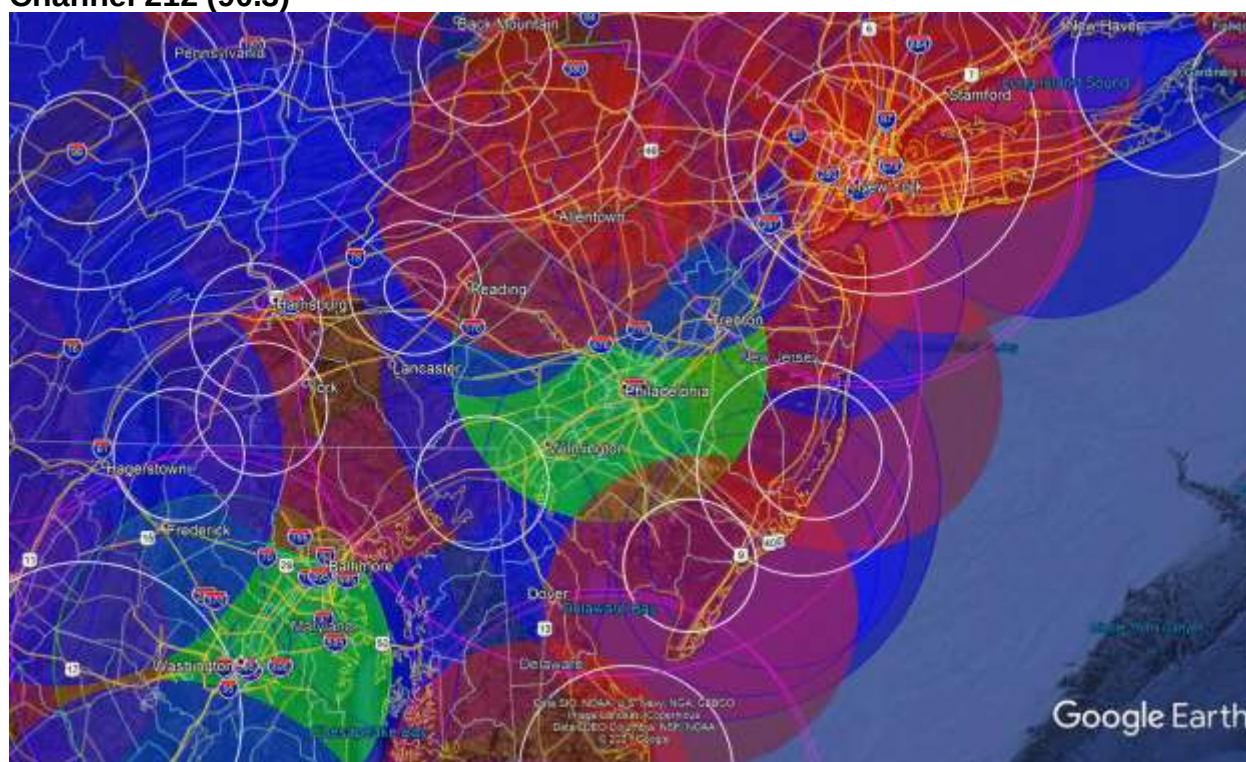
Channel 201 (88.1)**Channel 202 (88.3)**

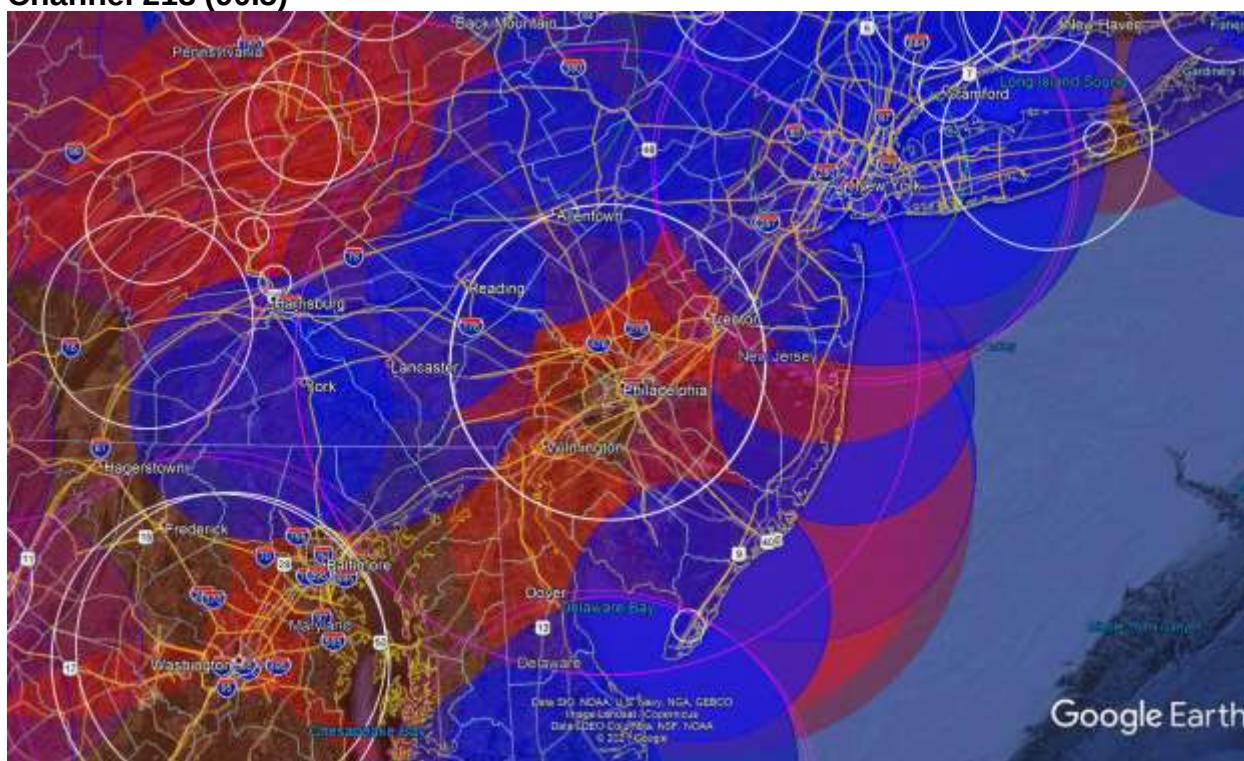
Channel 203 (88.5)**Channel 204 (88.7)**

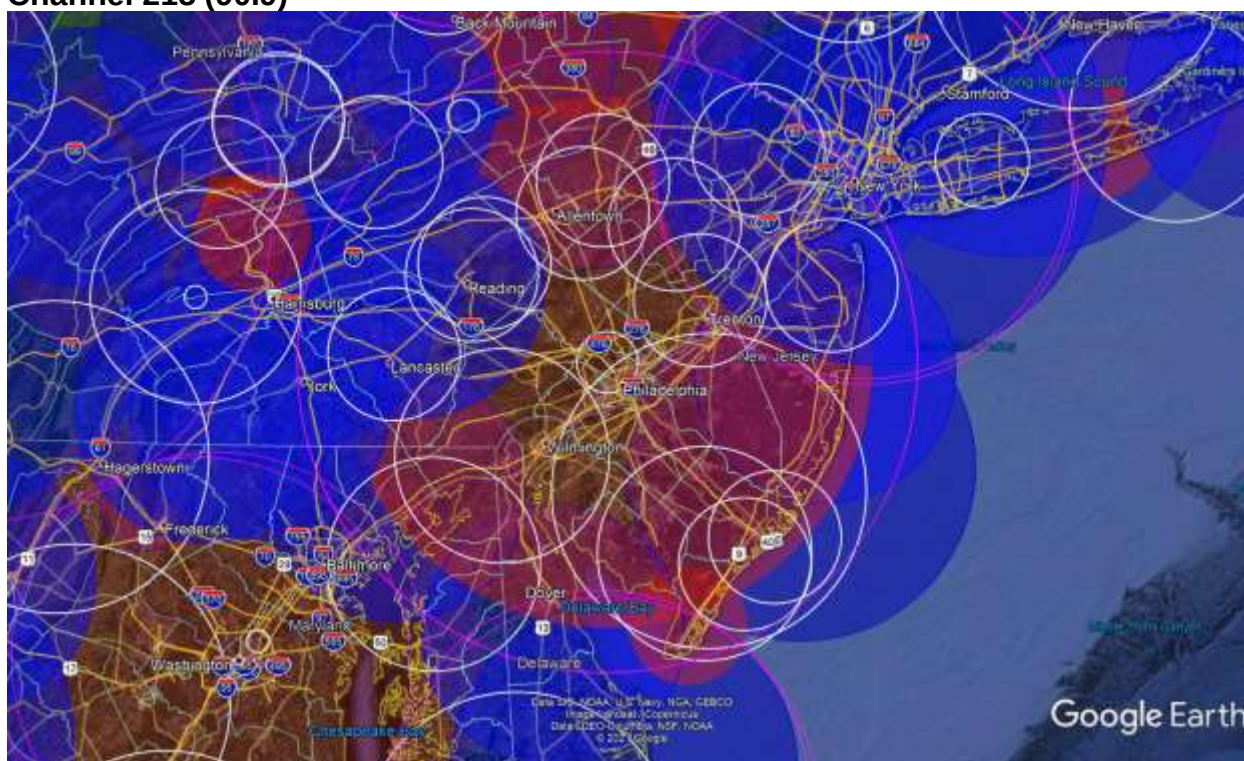
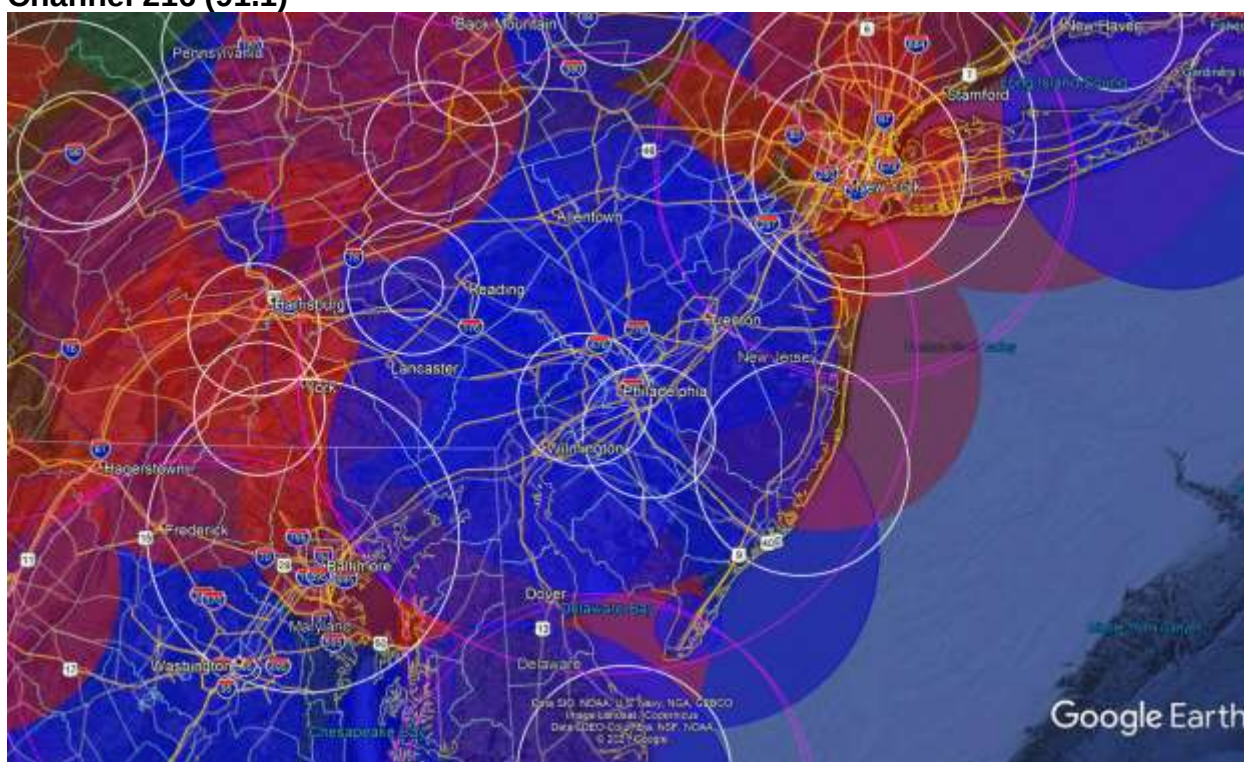
Channel 205 (88.9)**Channel 206 (89.1)**

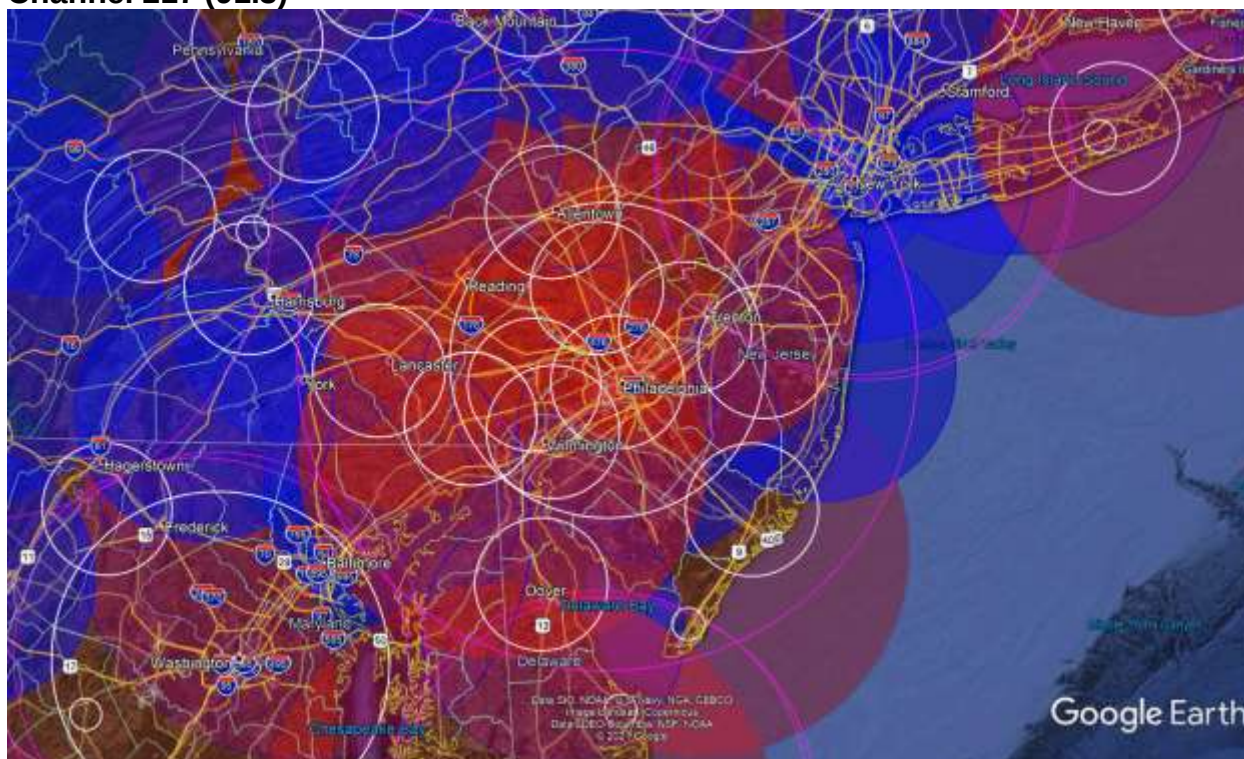
Channel 207 (89.3)**Channel 208 (89.5)**

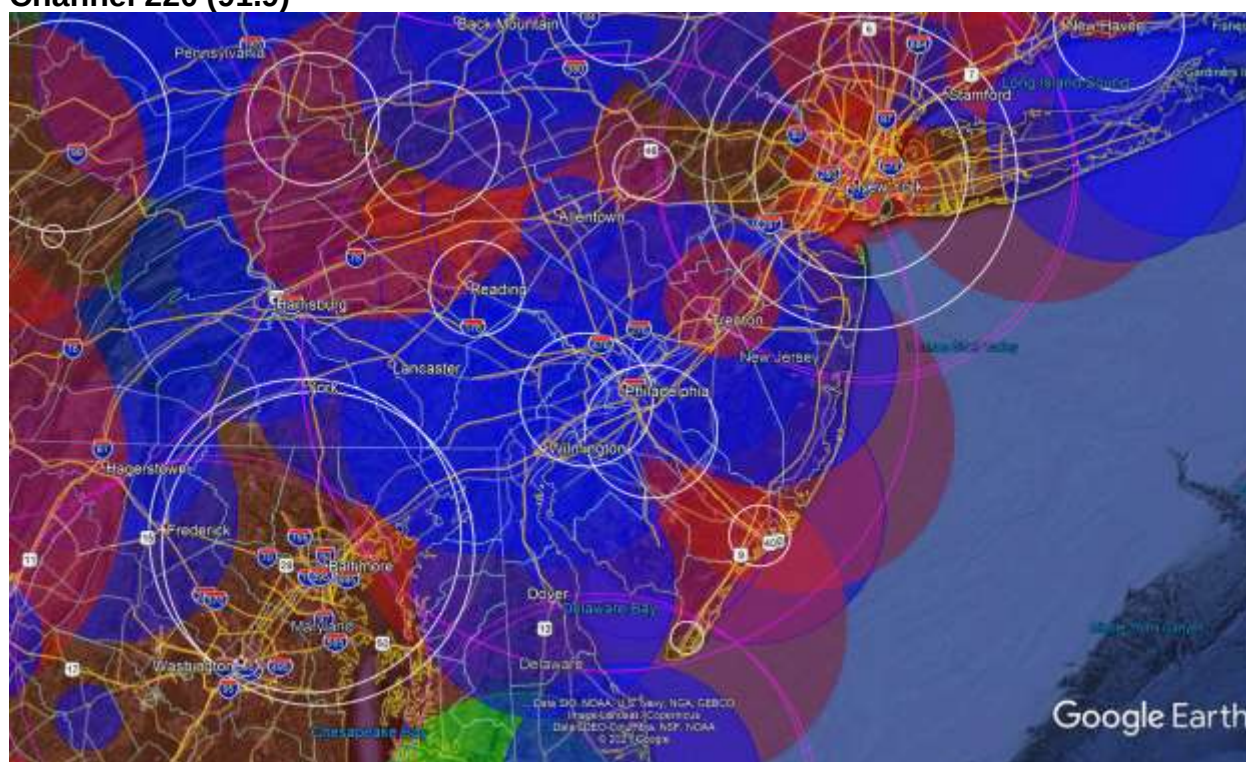
Channel 209 (89.7)**Channel 210 (89.9)**

Channel 211 (90.1)**Channel 212 (90.3)**

Channel 213 (90.5)**Channel 214 (90.7)**

Channel 215 (90.9)**Channel 216 (91.1)**

Channel 217 (91.3)**Channel 218 (91.5)**

Channel 219 (91.7)**Channel 220 (91.9)**

APPENDIX B

**FOOTHILL EFFECT LPFM STATIONS WITH A SERVICE CONTOUR
EXTENDING TO 16 km OR GREATER IN ANY DIRECTION
BASED ON CURRENT LP100 FACILITIES
(exceeding 20 km at LP250/250w @ 234m HAAT)**

GROUP 1 – LPFM stations that at LP250 would still not create any contour overlap with Full Service FM or FM translator facilities:

Call	Facility ID	Location	Peak contour at LP100	Peak contour at LP250	Consecutive Radials>20
KHRA-LP	195110	Anchorage, AK	18	22	100
KPKX-LP	197253	Globe, AZ	16	21	1
KZRJ-LP	191771	Jerome, AZ	22	27	127
KOLS-LP	192537	Oakhurst, CA	20	25	50
KQBM-LP	193635	West Point, CA	21	26	19
KURA-LP	131909	Ouray, CO	27	34	47
KIHL-LP	132082	Hilo, HI	17	21	54*
KFIP-LP	197667	Kailua-Kona, HI	21	26	156
KEAJ-LP	134669	Cell Site, MT	19	23	16
KTGC-LP	134971	St. Regis, MT	16	21	1
KSPL-LP	135568	John Day, OR	18	22	14
WJQJ-LP	195270	Gatlinburg, TN	18	23	56
KCVD-LP	197599	Castle Valley, UT	21	26	67
KAJJ-LP	123728	Monticello, UT	17	21	2
KORE-LP	192799	Entiat, WA	16	21	1
KUVB-LP	194237	Leavenworth, WA	20	24	20
KWEW-LP	135720	Wenatchee, WA	18	22	7
KEFA-LP	195791	Wenatchee, WA	21	26	24
KJHS-LP	192469	Wenatchee, WA	21	26	24

GROUP 2 – LPFM stations that at LP250 would create new overlap or increase existing overlap with Full Service FM or FM translator facilities:

Call	Facility ID	Location	Peak contour at LP100	Peak contour at LP250	Consecutive Radials>20
KSVB-LP	193717	Big Bear City, CA	21	26	76
KVBB-LP	193597	Big Bear Lake, CA	20	24	47
KFZR-LP	194173	Frazier Park, CA	24	30	85
KWRS-LP	197037	Redlands, CA	23	29	157
KQLH-LP	195813	Yucaipa, CA	23	29	158
KLNX-LP	131946	Minturn, CO	20	25	33

* - The portions of the KIHL-LP service contour exceeding 20 km are entirely over water. Should be permitted by waiver.

APPENDIX C

**REC SIMPLE250 LP-250 FOOTHILL EFFECT REPORT
PART 1: OVERVIEW AND CONTOUR MAPS
ALASKA~MASSACHUSETTS**

See separate document in this filing.

APPENDIX D

**REC SIMPLE250 LP-250 FOOTHILL EFFECT REPORT
PART 2: CONTOUR MAPS
MONTANA~WYOMING**

See separate document in this filing.

APPENDIX E

**REC SIMPLE250 LP-250 FOOTHILL EFFECT REPORT
PART 3: FULL-SERVICE FOOTHILL EFFECT
STATIONS WITH CONTOUR OVERLAP**

See separate document in this filing.

APPENDIX F

2000 STATEMENT OF DALE HATFIELD AND ROY STEWART



NEWS

Federal Communications Commission
445 12th Street, S.W.
Washington, D. C. 20554

News media Information 202 / 418-0500
Fax-On-Demand 202 / 418-2830
TTY 202/418-2555
Internet: <http://www.fcc.gov>
<ftp.fcc.gov>

This is an unofficial announcement of Commission action. Release of the full text of a Commission order constitutes official action. See MCI v. FCC, 516 F.2d 386 (D.C. Cir. 1974).

March 24, 2000

**STATEMENT OF
DALE HATFIELD, CHIEF, OFFICE OF ENGINEERING AND TECHNOLOGY, AND
ROY STEWART, CHIEF, MASS MEDIA BUREAU
CONCERNING LOW POWER FM ENGINEERING ISSUES**

We are concerned that Members of Congress have received misleading engineering information about alleged interference from low power FM radio stations.

One particularly misleading disinformation effort involves a compact disc being distributed by NAB that purports to demonstrate the type of interference to existing radio stations that NAB claims will occur from new low power FM radio stations. This CD demonstration is misleading and is simply wrong.

- The NAB CD does not portray actual interference that might be experienced. The NAB CD was produced by artificially mixing two previously recorded radio signals and is not a demonstration of actual interference between two FM radio stations.
- The type of "crosstalk" interference suggested by NAB, that is, where you can intelligibly hear portions of both transmissions, does not occur from LPFM stations operating on 3rd adjacent channels. Any such interference that might occur would only appear as noise or hissing. The NAB "crosstalk" demonstration simply does not represent actual FM radio performance and therefore is meaningless.
- The NAB also incorrectly states that the FCC considers a 3% level of total harmonic distortion plus noise from interference to be acceptable. This too is wrong. The FCC Report and Order refuted a similar previous NAB assertion and clearly indicated that the Commission based its evaluations on a 1% level. To continue to make the argument in this CD about the 3% level can only be viewed as a deliberate misrepresentation of the FCC's findings and analysis.

There also have been concerns raised by NPR about the impact of low power FM radio on radio reading services. Radio reading services, which carry newspapers and other information aurally to the visually impaired population, operate as subcarriers on FM frequencies. Just as our testing has determined that existing stations will not experience harmful interference, the Commission stated in the Report & Order that subcarriers on these frequencies should not experience harmful interference. Nevertheless, we will continue to work with NPR to test radio reading service receivers, and will, if necessary, recommend to the Commission steps specifically tailored to deal with the radio reading service issue.

We believe the Commission took a thorough and indeed conservative approach in designing a low power FM radio service that protects the integrity of the broadcast radio spectrum.

APPENDIX G**REVISED TEXT OF PROPOSED RULES**

For the convenience of the reader, the text changes in the proposed rules are highlighted in blue. The text changes as a result of these Reply Comments are highlighted in purple.

Part 73 of Title 47 of the U.S. Code of Federal Regulations is proposed to be amended to read as follows:

Part 73 – Radio Broadcast Services

1. In section Section 73.807, modify the introductory statement and paragraphs (a), (b), (c), (d) and (g) to read as follows:

§ 73.807 Minimum distance separation between stations.

Minimum separation requirements for LP100 and LP250 stations are listed in the following paragraphs. Except as noted below, an LPFM station will not be authorized unless the co-channel, first-, second-adjacent and I.F. channel separations are met. LP100 and LP250 stations need not satisfy the third-adjacent channel separations listed in paragraphs (a) through (d) in order to be authorized. The third-adjacent channel separations are included for use in determining for purposes of Section 73.810 which third-adjacent channel interference regime applies to an LPFM station.

Minimum distances for co-channel and first-adjacent channel are separated into two columns. The left-hand column lists the required minimum separation to protect other stations and the right-hand column lists (for informational purposes only) the minimum distance necessary for the LPFM station to receive no interference from other stations assumed to be operating at the maximum permitted facilities for the station class. For second-adjacent channel and intermediate frequency (I.F.) channels, the required minimum distance separation is sufficient to avoid interference received from other stations.

(a) Minimum distance separation to full-service FM stations.

(1) An LP100 station will not be authorized initially unless the minimum distance separations in the following table are met with respect to authorized FM stations, applications for new and existing FM stations filed prior to the release of the public notice announcing an LPFM window period for LPFM stations and vacant FM allotments. LPFM modification applications other than a change in station class from LP100 to LP250 must either meet the distance separations in the following table or, if short-spaced, not lessen the spacing to subsequently authorized stations.

Station class protected by LP100	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)
	Required	For no interference received from max. class facility	Required	For no interference received from max. class facility	Required
LP100.....	24	24	14	14	None
LP250	26	29	15	16	None
D.....	24	24	13	13	6
A	67	92	56	56	29
B1	87	119	74	74	46
B	112	143	97	97	67
C3	78	119	67	67	40
C2	91	143	80	84	53
C1	111	178	100	111	73
C0	122	193	111	130	84
C	130	203	120	142	93

(2) An LP250 station will not be authorized initially unless the minimum distance separations in the following table are met with respect to authorized FM stations, applications for new and existing FM stations filed prior to the release of the public notice announcing an LPFM window period for LPFM stations and vacant FM allotments. LPFM modification applications must either meet the distance separations in the following table or, if short-spaced, not lessen the spacing to subsequently authorized stations.

Station class protected by LP250	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)	I.F. channel minimum separations
	Required	For no interference received from max. class facility	Required	For no interference received from max. class facility	Required	10.6 or 10.8 MHz
LP100.....	29	29	16	15	None	None
LP250	31	31	17	17	None	None
D.....	29	29	16	16	7	3
A	72	94	58	58	30	6
B1	93	121	77	77	47	9
B	121	145	99	85	68	12
C3	83	121	69	69	41	9
C2	96	145	82	85	54	12
C1	116	179	102	112	74	20
C0	127	194	114	131	85	22
C	136	205	122	144	94	28

(3) LP100 and LP250 stations must satisfy the second-adjacent channel minimum distance separation requirements of paragraphs (a)(1) and (a)(2) of this section with respect to any third-adjacent channel FM station that, as of September 20, 2000, broadcasts a radio reading service via a subcarrier frequency.

(4) LP250 stations operating with 100 watts or less effective radiated power (ERP) need not satisfy the I.F. channel minimum separation requirements.

(b) (1) In addition to meeting or exceeding the minimum separations in paragraph (a)(1), new LP100 stations will not be authorized in Puerto Rico or the Virgin Islands unless the minimum distance separations in the following tables are met with respect to authorized or proposed FM stations:

Station class protected by LP100	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)—required
	Required	For no interference received from max. class facility	Required	For no interference received from max. class facility	
A	80	111	70	70	42
B1	95	128	82	82	53
B	138	179	123	123	92

(2) In addition to meeting or exceeding the minimum separations in paragraph (a)(2), new LP250 stations will not be authorized in Puerto Rico or the Virgin Islands unless the minimum distance separations in the following tables are met with respect to authorized or proposed FM stations:

Station class protected by LP250	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent channel minimum separation (km)—required	I.F. channel minimum separations—10.6 or 10.8 MHz
	Required	For no interference received from max. class facility	Required	For no interference received from max. class facility		
A	85	112	72	69	43	9
B1	101	129	84	85	54	11
B	147	181	126	145	94	19

(3) LP100 and LP250 stations must satisfy the second-adjacent channel minimum distance separation requirements of paragraphs (b)(1) and (b)(2) of this section with respect to any third-adjacent channel FM station that, as of September 20, 2000, broadcasts a radio reading service via a subcarrier frequency.

(4) LP250 stations operating with 100 watts or less effective radiated power (ERP) need not satisfy the I.F. channel minimum separation requirements.

NOTE TO PARAGRAPH (a) AND (B): Minimum distance separations towards “grandfathered” superpowered Reserved Band stations are as specified.

Full service FM stations operating within the reserved band (Channels 201-220) with facilities in excess of those permitted in § 73.211(b)(1) or § 73.211(b)(3) shall be protected by LPFM stations in accordance with the minimum distance separations for the nearest class as determined under § 73.211. For example, a Class B1 station operating with facilities that result in a 60 dBu contour that exceeds 39 kilometers but is less than 52 kilometers would be protected by the Class B minimum distance separations. Class D stations with 60 dBu contours that exceed 5 kilometers will be protected by the Class A minimum distance separations. Class B stations with 60 dBu contours that exceed 52 kilometers will be protected as Class C1 or Class C stations depending upon the distance to the 60 dBu contour. No stations will be protected beyond Class C separations.

NOTE TO PARAGRAPH (a): Effective [date] and for [days] following in order to accommodate the implementation of the LP250 service class, modification applications specifying operation in the LP250 service class must be separated from LP100 stations by a minimum of 31 kilometers co-channel and 17 kilometers on first-adjacent channel.

(5) An LP250 application will not be accepted for filing if, based on 360 equally spaced radials, the proposed 60 dBu service contour extends to 21 kilometers or greater over land area along 20 or more consecutive radials.

(c)(1) In addition to meeting the separations specified in paragraphs (a) and (b), LP100 applications must meet the minimum separation requirements in the following table with respect to authorized FM translator stations, cutoff FM translator applications, and FM translator applications filed prior to the release of the Public Notice announcing the LPFM window period.

Distance to FM translator 60 dBu contour	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent minimum separation (km)—required
	Required	For no interference received	Required	For no interference received	
13.3 km or greater.....	39	67	28	35	21
Greater than 7.3 km, but less than 13.3 km..	32	51	21	26	14
7.3 km or less	26	30	15	16	8

(c)(2) In addition to meeting the separations specified in paragraphs (a) and (b), LP250 applications must meet the minimum separation requirements in the following table with respect to authorized FM translator stations, cutoff FM translator applications, and FM translator applications filed prior to the release of the Public Notice announcing the LPFM window period:

Distance to FM translator 60 dBu contour	Co-channel minimum separation (km)		First-adjacent channel minimum separation (km)		Second and third adjacent minimum separation (km)—required
	Required	For no interference received	Required	For no interference received	
13.3 km or greater.....	44	69	30	37	21
Greater than 7.3 km, but less than 13.3 km....	37	53	23	27	14
7.3 km or less.....	31	32	17	18	8

(d) Existing [LP250](#) and [LP100](#) stations which do not meet the separations in paragraphs (a) through (c) of this section may be relocated provided that the separation to any short-spaced station is not reduced.

(e) * * * * *

(f) * * * * *

(g) International considerations within the border zones.

(1) Within 320 km of the Canadian border, [LP100](#) stations must meet the following minimum separations with respect to any Canadian stations:

Canadian station class	Co-channel (km)	First-adjacent channel (km)	Second-adjacent channel (km)	Third-adjacent channel (km)	Intermediate frequency (IF) channel (km)
A1 & Low Power	45	30	21	20	4
A	66	50	41	40	7
B1	78	62	53	52	9
B	92	76	68	66	12
C1	113	98	89	88	19
C	124	108	99	98	28

(2) Within 320 km of the Canadian border, LP250 stations must meet the following minimum separations with respect to any Canadian stations:

Canadian station class	Co-channel (km)	First-adjacent channel (km)	Second-adjacent channel (km)	Third-adjacent channel (km)	Intermediate frequency (IF) channel (km)
A1 & Low Power	54	33	22	20	4
A	76	53	42	40	6
B1	88	65	54	52	9
B	102	80	68	67	12
C1	123	101	90	88	19
C	133	111	100	98	28

(3) Within 320 km of the Mexican border, LP100 stations must meet the following separations with respect to any Mexican stations:

Mexican station class	Co-channel (km)	First-adjacent channel (km)	Second- and third-adjacent channel (km)	Intermediate frequency (IF) channel (km)
Low Power	27	17	9	3
A	43	32	25	5
AA	47	36	29	6
B1	67	54	45	8
B	91	76	66	11
C1	91	80	73	19
C	110	100	92	27

(4) Within 320 km of the Mexican border, LP250 stations must meet the following separations with respect to any Mexican stations:

Mexican station class	Co-channel (km)	First- adjacent channel (km)	Second- and third- adjacent channel (km)	Intermediate frequency (IF) channel (km)
Low Power	33	19	10	3
A	49	35	26	6
AA	53	39	30	6
B1	74	57	46	9
B	102	80	68	12
C1	97	83	74	19
C	116	102	93	27

(5) The Commission will notify the International Telecommunications Union (ITU) of any LPFM authorizations in the US Virgin Islands. Any authorization issued for a US Virgin Islands LPFM station will include a condition that permits the Commission to modify, suspend or terminate without right to a hearing if found by the Commission to be necessary to conform to any international regulations or agreements.

(6) The Commission will initiate international coordination of a LPFM proposal even where the above Canadian and Mexican spacing tables are met, if it appears that such coordination is necessary to maintain compliance with international agreements.

(7)(i) LPFM stations located within 125 kilometers Mexican border are limited to 50 watts (0.05 kW) ERP, a 60 dBu service contour of 8.7 kilometers and a 34 dBu interfering contour of 32 kilometers in the direction of the Mexican border. LP100 stations may operate up to 100 watts and LP250 stations may operate up to 250 watts in all other directions.

(ii) LPFM stations located between 125 kilometers and 320 kilometers from the Mexican border may operate in excess of 50 watts up to a maximum ERP of 100 watts for LP100 stations and 250 watts for LP250 stations. However, in no event shall the location of the 60 dBu contour lie within 116.3 kilometers of the Mexican border.

(iii) Application for LPFM stations within 320 kilometers of the Canadian border may employ an ERP of up to a maximum of 100 watts for LP100 stations and 250 watts for LP250 stations. The distance to the 34 dBu interfering contour may not exceed 60 kilometers in any direction.

2. Revise §73.811 to read as follows:

§73.811 LPFM power and antenna height requirements.

(a) Maximum facilities.

(1) LP100 stations will be authorized to operate with maximum facilities of 100 watts ERP at 30 meters HAAT. An LPFM station with a HAAT that exceeds 30 meters will not be permitted with an ERP greater than that which would result in a 60 dBu contour of 5.6 kilometers. In no event will an ERP of less than one watt ERP be authorized. No new or modified LP100 facility will be authorized specifying a HAAT of 452 meters or greater.

(2) LP250 stations will be authorized to operate with maximum facilities of 250 watts ERP at 30 meters HAAT. An LPFM station with a HAAT that exceeds 30 meters will not be permitted with an ERP greater than that which would result in a 60 dBu contour of 7.1 kilometers. In no event will an ERP of less than one watt ERP be authorized.

(b) Minimum facilities.

(1) LP100 facilities may not operate with facilities of less than 50 watts ERP at 30 meters or the equivalent necessary to produce a 60 dBu contour that extends at least 4.7 kilometers.

(2) LP250 facilities may not operate with facilities of less than 101 watts ERP at 30 meters or the equivalent necessary to produce a 60 dBu contour that extends at least 5.7 kilometers.

3. Revise §73.825 to read as follows:

§73.825 Protection to reception of TV channel 6.

The following spacing requirements will apply to LPFM applications on Channels 201 through 220 unless application is accompanied by a written agreement between the LPFM applicant and each affected TV Channel 6 broadcast station concurring with the proposed LPFM facilities.

(a) LPFM stations will be authorized on Channels 201 through 220 only if the pertinent minimum separation distances in the following table are met with respect to all full power TV Channel 6 stations.

FM channel number	Class LP100 to TV channel 6 (km)	Class LP250 to TV channel 6 (km)
201	140	143
202	138	141
203	137	139
204	136	138
205	135	136
206	133	135
207	133	133
208	133	133
209	133	133
210	133	133
211	133	133
212	132	133
213	132	133
214	132	132
215	131	132
216	131	132
217	131	132
218	131	131
219	130	131
220	130	130

(b) LPFM stations will be authorized on Channels 201 through 220 only if the pertinent minimum separation distances in the following table are met with respect to all low power TV, TV translator, and Class A TV stations authorized on TV Channel 6.

FM channel number	Class LP100 to TV channel 6 (km)	Class LP250 to TV channel 6 (km)
201	98	101
202	97	99
203	95	97
204	94	96
205	93	94
206	91	93
207	91	92
208	91	92
209	91	92
210	91	92
211	91	92
212	90	91
213	90	91
214	90	91
215	90	90
216	89	90
217	89	90
218	89	89
219	89	89
220	89	89

4. Update paragraph (a) of §73.870 to insert subparagraph (3) as follows:

§73.870 Processing of LPFM broadcast station applications.

(a) * * * * *

(3) Upgrades from LP100 to LP250 and downgrades from LP250 to LP100.

* * * * *

5. Update paragraph (c) of §73.871 to insert subparagraph (8) as follows:

§73.871 Amendment of LPFM broadcast station applications

(c) * * * * *

(7) * * * * *

(8) Upgrades from LP100 to LP250 and downgrades from LP250 to LP100.

(d) * * * * *

Part 74 of Title 47 of the U.S. Code of Federal Regulations is proposed to be amended to read as follows:

**Part 74 – Experimental Radio, Auxiliary, Special Broadcast and Other Program
Distributional Services**

1. Revise §74.1204 to update the title and make changes to subparagraph (a)(4) and revise note to paragraph to read as follows:

§74.1204 Protection of FM broadcast, FM Translator and LPFM stations.

(a) * * * * *

(4) LP100 and LP250 stations (Protected Contour: 1 mV/m)

Frequency Separation	Interference contour of proposed translator station	Protected contour of LP100 or LP250 LPFM station
Co-channel	0.1 mV/m (40 dBu)	1 mV/m (60 dBu)
200 kHz	0.5 mV/m (54 dBu)	1 mV/m (60 dBu)

NOTE TO PARAGRAPH (a)(4):

LP100 and LP250 stations, to the purposes of determining overlap pursuant to this paragraph, LPFM applications and permits that have not yet been licensed must be considered as operating with the maximum permitted facilities. All LPFM TIS stations must be protected on the basis of a nondirectional antenna.