**Before the**

Federal Communications Commission

Washington, D.C. 20554

|  |  |  |
| --- | --- | --- |
| In the Matter of  RADWIN, Ltd.  Request for waiver of Section 15.407(a) of the rules for Unlicensed National Information Infrastructure devices in the 5.15-5.25 GHz and 5.725-5.85 GHz bands | **)**  **)**  **)**  **)**  **)**  **)**  **)**  **)** | ET Docket No. 20-128 |

order

**Adopted: July 16, 2020 Released: July 16, 2020**

By the Acting Chief, Office of Engineering and Technology:

# Introduction

1. By this Order, we grant the request for waiver of Section 15.407(a) of the Commission’s rules filed by RADWIN, Ltd. (RADWIN) that will allow it to modify certain of its certified Unlicensed National Information Infrastructure (U-NII) devices to operate with higher power in the 5.15-5.25 GHz and 5.725-5.850 GHz bands for a period of 60 days. For the reasons discussed below, we find that there is good cause to grant RADWIN’s request for waiver subject to certain conditions.

# Background

1. On May 1, 2020, RADWIN filed a request for a waiver of Section 15.407(a) of the Commission’s rules to allow the operation of its JET point-to-multipoint, beamforming fixed wireless base stations in the 5.15-5.25 GHz and 5.725-5.85 GHz bands at power levels that exceed the limit for point-to-multipoint systems.[[1]](#footnote-3) RADWIN states that the waiver will permit its customers to provide better high-speed broadband service to subscribers so that they can stay connected and access essential services during the COVID-19 pandemic.[[2]](#footnote-4)
2. Sections 15.407(a)(1)(i) and 15.407(a)(3) of the Commission’s rules permit U-NII devices to operate in the 5.15-5.25 GHz and 5.725-5.85 GHz bands with a maximum conducted power output of one watt (30 dBm) and an antenna gain of up to 6 dBi, i.e., an EIRP limit of 36 dBm.[[3]](#footnote-5) If the maximum directional gain of the antenna exceeds 6 dBi, the conducted power output must be reduced by the amount in dB that the antenna gain exceeds 6 dBi, which ensures that the EIRP does not exceed 36 dBm.[[4]](#footnote-6) EIRP levels greater than 36 dBm are permitted for fixed point-to-point systems but not for point-to-multipoint systems.[[5]](#footnote-7) RADWIN is seeking a waiver to permit the operation of point-to-multipoint systems that use multiple sequential beams, with EIRP up to 48 dBm, i.e., 12 dB above the limit prescribed by the Commission’s rules.[[6]](#footnote-8) In support of its waiver request, RADWIN sets forth the procedures that its customers would undertake to enable higher power operations under a waiver for a period of 60 days, and the procedures to revert the equipment back to the normally permissible power levels after the expiration of a waiver.[[7]](#footnote-9) RADWIN subsequently amended its request for operation in the 5.15-5.25 GHz band to a level of 6 dB above the limit, i.e., an EIRP of 42 dBm, which it states is necessary to ensure that its equipment complies with the undesirable emission limits in Section 15.407(b), and clarified that with the 12 dB increase in power for operation in the 5.725-5.850 GHz band, the equipment would still comply with the undesirable emission limits.[[8]](#footnote-10)
3. RADWIN also provided additional steps it will take to ensure that its customers reduce devices’ power to the levels permitted by the rules when the waiver period ends.[[9]](#footnote-11) Specifically, RADWIN will obtain the name and contact information for each customer that connects to its servers to download the waiver capabilities.[[10]](#footnote-12) Each device to which the waiver mode is applied will automatically send its serial number, geographic coordinates and power settings to RADWIN, and RADWIN will compile a list of every customer and every device that operates at higher power.[[11]](#footnote-13) RADWIN will send notifications to customers to remind them when the waiver period is ending and will record which customers contact its servers to reduce device power upon expiration of the waiver.[[12]](#footnote-14) As such, RADWIN will have a record of which devices were not reverted back to pre-waiver mode, identified by serial number, customer name, and geographic coordinates.[[13]](#footnote-15) RADWIN will notify customers when they install the power upgrade capability that it will provide the Commission with a list of those that do not timely downgrade after the waiver ends.[[14]](#footnote-16)
4. In response to the Office of Engineering and Technology’s (OET) request for comment on the RADWIN waiver request, fourteen parties filed comments and RADWIN filed reply comments.[[15]](#footnote-17) A number of wireless internet service providers support the waiver request.[[16]](#footnote-18) No party objected to the waiver request outright, but several parties, including Globalstar, 5G Automotive Association, NCTA and WiMax Forum support the waiver request so long as it is limited to the requested 60-day time period.[[17]](#footnote-19) These parties are concerned about the impact on various co-channel and adjacent channel operations, e.g., satellite, Cellular Vehicle-to-Everything (C-V2X), Wi-Fi and the Aeronautical Mobile Airport Communication System (AeroMACS), from longer term operation at the higher power levels RADWIN requests.[[18]](#footnote-20) Globalstar requests that the Commission require RADWIN’s customers to submit reports providing information on the quantity, radio and antenna model numbers, geographic coordinates, and antenna heights of deployed RADWIN point-to-multipoint base stations.[[19]](#footnote-21)
5. **Discussion**
6. We are authorized to grant a waiver under Section 1.3 of the Commission's rules if the petitioner demonstrates good cause for such action.[[20]](#footnote-22) Good cause, in turn, may be found and a waiver granted “where particular facts would make strict compliance inconsistent with the public interest.”[[21]](#footnote-23) To make this public interest determination, the waiver cannot undermine the purposes of the rule, and there must be a stronger public interest benefit in granting the waiver than in applying the rule.[[22]](#footnote-24)
7. We find that granting RADWIN’s requested waiver promises to deliver several benefits to consumers of wireless internet service providers that will allow them to stay connected and access essential services during the ongoing challenge of the COVID-19 pandemic. Higher power will provide improved system performance and increased capacity to enable service to more customers simultaneously. This improved performance and capacity will particularly benefit customers in remote areas by providing better access to important services such as telehealth during the current pandemic.
8. We also conclude that, with appropriate operational and technical restrictions to prevent harmful interference to authorized services, granting RADWIN’s request for waiver does not undermine the purpose of the rules, i.e., to prevent harmful interference to authorized services. As requested by RADWIN, we are limiting this waiver to a period of 60 days, which will serve to limit the potential impact on authorized services in the same and adjacent bands.[[23]](#footnote-25) No party argued that operation of the RADWIN equipment at the higher power levels it requests for a 60-day time period would result in harmful interference to authorized services.[[24]](#footnote-26) In addition, RADWIN equipment will operate at higher power in only a relatively few locations for this limited time period, which will further serve to keep the potential for interference to authorized services low.
9. We will require that RADWIN maintain a database of the geographic coordinates where their equipment operating at higher power under this waiver is deployed, and that this information be made available to the FCC and NTIA upon request. However, we are not requiring RADWIN to submit detailed information on the quantity, radio and antenna model numbers and antenna heights of their deployed point-to-multipoint base stations as requested by Globalstar.[[25]](#footnote-27) We believe that requiring RADWIN to maintain a database of operating locations under this waiver is a sufficient safeguard to address interference concerns and that requiring the additional information requested by Globalstar would be unnecessarily burdensome and of limited value, particularly in light of the fact that this waiver is limited to a short duration of 60 days.

## Waiver conditions

1. We will impose conditions on the grant of the waiver that are designed to limit the potential for harmful interference from RADWIN’s system, while allowing wireless internet service providers to temporarily operate with higher power to provide improved service. Specifically, we will limit the waiver to 60 days, limit the maximum EIRP of devices to the levels requested by RADWIN, and require that devices continue to comply with the undesirable emission limits at these higher power levels. We will also require RADWIN and its customers to follow the procedures described in RADWIN’s waiver request and June 4, 2020 letter to increase the devices’ EIRP for operation under the waiver, and to reduce the devices’ EIRP when the waiver expires. We will also require RADWIN to provide within 20 days of expiration of the waiver a list of its customers that have not followed the procedures to reinstate the pre-waiver on their devices.
2. Accordingly, pursuant to the delegated authority in Sections 0.31 and 0.241 of the Commission’s rules, we waive the requirements of Sections 15.407(a) of our rules to permit the operation of the RADWIN JET point-to-multipoint system[[26]](#footnote-28) at power levels that exceed the limits in that section. This waiver is subject to the following conditions:
3. Operation at the higher power levels specified herein is permitted for a period of 60 days from the release date of this Order.
4. Operation is limited to a maximum EIRP of 42 dBm in the 5.15-5.25 GHz band and 48 dBm in the 5.725-5.85 GHz band.
5. Devices must continue to comply with the undesirable emission limits in Section 15.407(b).
6. To protect Federal Government operations, operation of RADWIN equipment under this waiver is prohibited within the counties listed in the Appendix.
7. RADWIN must maintain a database of the geographic coordinates where its equipment operating at higher power under this waiver is deployed, and this information must be made available to the FCC and NTIA upon request.
8. Increasing power for any device operating under the waiver must be done in accordance with the procedures described in RADWIN’s waiver request and June 4, 2020 letter.
9. All devices operating under this waiver must have their power reduced to levels permitted by the rules at the end of the waiver period in accordance with the procedures described in RADWIN’s waiver request and June 4, 2020 letter.
10. RADWIN will provide within 20 days of expiration of the waiver a list of its customers that have failed to update their devices to the pre-waiver settings.
11. Operation of RADWIN equipment under this waiver within 50 kilometers of the sites listed in Table 1 below requires prior coordination with the National Science Foundation at [esm@nsf.gov](mailto:esm@nsf.gov).

**Table 1**

**Latitude and Longitude of Radio Astronomy Sites**

|  |  |  |
| --- | --- | --- |
| **RAS Site** | **Latitude (North)** | **Longitude (West)** |
| Allen Telescope Array (ATA), Hat Creek, CA | 40°49′04″ | 121°28′24″ |
| Pisgah Astronomical Research Institute (PARI), Rosman, NC | 35°11′59″ | 82°52′21″ |
| University of Michigan Radio Astronomy Observatory, Stinchfield Woods, MI | 42°23′56″ | 83°56′08″ |
| Arecibo Observatory (AO), PR | 18° 20' 37" | 66° 45' 11" |
| Green Bank Telescope (GBT), WV | 38° 25' 59" | 79° 50' 23" |
| Very Large Array (VLA), Socorro, NM | 34° 04' 44" | 107° 37' 06" |
| Very Long Baseline Array Brewster, WA  Very Long Baseline Array Fort Davis, TX  Very Long Baseline Array Hancock, NH  Very Long Baseline Array Kit Peak, AZ  Very Long Baseline Array Los Alamos, NM  Very Long Baseline Array Mauna Kea, HI  Very Long Baseline Radar North Liberty, IA  Very Long Baseline Array Owens Valley, CA  Very Long Baseline Array Pie Town, NM  Very Long Baseline Array St Croix, VI | 48° 07' 52"  30° 38' 06"  42° 56' 01"  31° 57' 23"  35° 46' 30"  19° 48' ° 05"  41° 46' 17"  37° 13' 54"  34° 18' 04"  17° 45' 24" | 119° 41' 00"  103° 56' 41"  71° 59' 12"  111° 36' 45"  106° 14' 44"  155° 27' 20"  91° 34' 27"  118° 16' 37"  108° 07' 09"  64° 35' 01" |

1. Operation of RADWIN equipment within the geographic zone listed in Table 2 below should not be permitted without prior coordination following the procedures in Section 1.924 of the Commission’s rules.[[27]](#footnote-29)

**Table 2**

|  |  |
| --- | --- |
| **Geographic Zones** | **Latitude and Longitude of**  **Northeast and Southwest Corners** |
| NRQZ1 | 37°30'00"N, 80°30'00"W and 39°15'00"N, 78°30'00"W |

1. **ORDERING CLAUSES**
2. Accordingly, pursuant to authority delegated in Sections 0.31 and 0.241 of the Commission's rules, 47 CFR §§ 0.31, 0.241, and Section 1.3 of the Commission's rules, 47 CFR § 1.3, IT IS ORDERED that the Request for Waiver filed by RADWIN, Ltd. on May 1, 2020 IS GRANTED for a period of 60 days, consistent with the terms of this Order. This action is taken pursuant to Sections 4(i), 302, 303(e), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 302, 303(e), and 303(r). This action is effective upon release of this Order.
3. IT IS FURTHER ORDERED that, if no applications for review are timely filed, this proceeding SHALL BE TERMINATED, and the docket CLOSED.

FEDERAL COMMUNICATIONS COMMISSION

Ronald T. Repasi

Acting Chief, Office of Engineering and Technology

**Appendix**

**Counties where higher power operation of RADWIN equipment**

**under this waiver is prohibited**

**Table 1**

**5150-5250 MHz Operation Prohibited**

| **Prohibited County** | **State** |
| --- | --- |
| Fairbanks North Star | AK |
| Southeast Fairbanks | AK |
| Baldwin | AL |
| Blount | AL |
| Covington | AL |
| Cullman | AL |
| DeKalb | AL |
| Escambia | AL |
| Jackson | AL |
| Lauderdale | AL |
| Lawrence | AL |
| Limestone | AL |
| Madison | AL |
| Marshall | AL |
| Morgan | AL |
| Winston | AL |
| La Paz | AZ |
| Yuma | AZ |
| Butte | CA |
| Colusa | CA |
| El Dorado | CA |
| Glenn | CA |
| Imperial | CA |
| Inyo | CA |
| Kern | CA |
| Nevada | CA |
| Placer | CA |
| Plumas | CA |
| Sacramento | CA |
| San Bernardino | CA |
| San Luis Obispo | CA |
| Sierra | CA |
| Sutter | CA |
| Tulare | CA |
| Yolo | CA |
| Yuba | CA |
| Columbia | FL |
| Escambia | FL |
| Hamilton | FL |
| Jefferson | FL |
| Madison | FL |
| Okaloosa | FL |
| Santa Rosa | FL |
| Suwannee | FL |
| Walton | FL |
| Atkinson | GA |
| Berrien | GA |
| Brooks | GA |
| Clinch | GA |
| Coffee | GA |
| Colquitt | GA |
| Cook | GA |
| Echols | GA |
| Irwin | GA |
| Lanier | GA |
| Lowndes | GA |
| Thomas | GA |
| Tift | GA |
| Ware | GA |
| Honolulu | HI |
| Calhoun | IL |
| Greene | IL |
| Jersey | IL |
| Macoupin | IL |
| Madison | IL |
| Monroe | IL |
| Pike | IL |
| St. Clair | IL |
| Essex | MA |
| Middlesex | MA |
| Plymouth | MA |
| Suffolk | MA |
| Worcester | MA |
| Anne Arundel | MD |
| Calvert | MD |
| Caroline | MD |
| Carroll | MD |
| Charles | MD |
| Dorchester | MD |
| Frederick | MD |
| Prince George's | MD |
| Somerset | MD |
| St. Mary's | MD |
| Talbot | MD |
| Washington | MD |
| Wicomico | MD |
| Worcester | MD |
| Franklin | MO |
| Jefferson | MO |
| Lincoln | MO |
| Pike | MO |
| St. Charles | MO |
| St. Louis | MO |
| Warren | MO |
| Carter | MT |
| Powder River | MT |
| Camden | NC |
| Currituck | NC |
| Cheshire | NH |
| Hillsborough | NH |
| Merrimack | NH |
| Rockingham | NH |
| Strafford | NH |
| DoÃ±a Ana | NM |
| Lincoln | NM |
| Otero | NM |
| Sierra | NM |
| Socorro | NM |
| Clark | NV |
| Elko | NV |
| Esmeralda | NV |
| Lincoln | NV |
| Nye | NV |
| White Pine | NV |
| Herkimer | NY |
| Jefferson | NY |
| Lewis | NY |
| Oswego | NY |
| St. Lawrence | NY |
| Adams | PA |
| Bedford | PA |
| Cumberland | PA |
| Franklin | PA |
| Fulton | PA |
| Huntingdon | PA |
| Juniata | PA |
| Mifflin | PA |
| Perry | PA |
| York | PA |
| Butte | SD |
| Harding | SD |
| Lawrence | SD |
| Franklin | TN |
| Giles | TN |
| Lawrence | TN |
| Lincoln | TN |
| Bell | TX |
| Bosque | TX |
| Burnet | TX |
| Coryell | TX |
| El Paso | TX |
| Falls | TX |
| Hamilton | TX |
| Hudspeth | TX |
| Lampasas | TX |
| Llano | TX |
| McLennan | TX |
| Mills | TX |
| San Saba | TX |
| Travis | TX |
| Williamson | TX |
| Juab | UT |
| Millard | UT |
| Tooele | UT |
| Accomack | VA |
| Caroline | VA |
| Chesapeake | VA |
| Essex | VA |
| Gloucester | VA |
| Hampton | VA |
| Isle of Wight | VA |
| James City | VA |
| King and Queen | VA |
| King George | VA |
| Lancaster | VA |
| Mathews | VA |
| Middlesex | VA |
| Newport News | VA |
| Norfolk | VA |
| Northampton | VA |
| Northumberland | VA |
| Poquoson | VA |
| Portsmouth | VA |
| Richmond | VA |
| Suffolk | VA |
| Virginia Beach | VA |
| Westmoreland | VA |
| York | VA |
| Clallam | WA |
| Grays Harbor | WA |
| Jefferson | WA |
| Mason | WA |
| Pacific | WA |
| Berkeley | WV |
| Jefferson | WV |
| Morgan | WV |
| Campbell | WY |
| Crook | WY |

**Table 2**

**5725-5850 MHz Operation Prohibited**

| **Prohibited County** | **State** |
| --- | --- |
| Fairbanks North Star | AK |
| Kodiak Island | AK |
| Southeast Fairbanks | AK |
| Yukon-Koyukuk | AK |
| Blount | AL |
| Covington | AL |
| Cullman | AL |
| DeKalb | AL |
| Escambia | AL |
| Geneva | AL |
| Jackson | AL |
| Lauderdale | AL |
| Lawrence | AL |
| Limestone | AL |
| Madison | AL |
| Marshall | AL |
| Mobile | AL |
| Morgan | AL |
| Winston | AL |
| Columbia | AR |
| Crawford | AR |
| Franklin | AR |
| Johnson | AR |
| Lafayette | AR |
| Logan | AR |
| Madison | AR |
| Miller | AR |
| Scott | AR |
| Sebastian | AR |
| Washington | AR |
| Cochise | AZ |
| Graham | AZ |
| La Paz | AZ |
| Pima | AZ |
| Pinal | AZ |
| Santa Cruz | AZ |
| Yuma | AZ |
| Alameda | CA |
| Butte | CA |
| Colusa | CA |
| Contra Costa | CA |
| El Dorado | CA |
| Glenn | CA |
| Imperial | CA |
| Inyo | CA |
| Kern | CA |
| Los Angeles | CA |
| Marin | CA |
| Nevada | CA |
| Orange | CA |
| Placer | CA |
| Plumas | CA |
| Riverside | CA |
| Sacramento | CA |
| San Bernardino | CA |
| San Diego | CA |
| San Francisco | CA |
| San Luis Obispo | CA |
| San Mateo | CA |
| Santa Barbara | CA |
| Santa Clara | CA |
| Santa Cruz | CA |
| Sierra | CA |
| Sutter | CA |
| Tulare | CA |
| Ventura | CA |
| Yolo | CA |
| Yuba | CA |
| Kent | DE |
| New Castle | DE |
| Sussex | DE |
| Bay | FL |
| Brevard | FL |
| Calhoun | FL |
| Charlotte | FL |
| Citrus | FL |
| Clay | FL |
| Columbia | FL |
| DeSoto | FL |
| Duval | FL |
| Escambia | FL |
| Franklin | FL |
| Gulf | FL |
| Hamilton | FL |
| Hardee | FL |
| Hernando | FL |
| Hillsborough | FL |
| Holmes | FL |
| Indian River | FL |
| Jackson | FL |
| Jefferson | FL |
| Lake | FL |
| Lee | FL |
| Leon | FL |
| Liberty | FL |
| Madison | FL |
| Manatee | FL |
| Monroe | FL |
| Nassau | FL |
| Okaloosa | FL |
| Orange | FL |
| Osceola | FL |
| Pasco | FL |
| Pinellas | FL |
| Polk | FL |
| Santa Rosa | FL |
| Sarasota | FL |
| Seminole | FL |
| St. Johns | FL |
| Suwannee | FL |
| Volusia | FL |
| Wakulla | FL |
| Walton | FL |
| Washington | FL |
| Atkinson | GA |
| Bartow | GA |
| Berrien | GA |
| Brooks | GA |
| Camden | GA |
| Carroll | GA |
| Charlton | GA |
| Cherokee | GA |
| Clayton | GA |
| Clinch | GA |
| Cobb | GA |
| Coffee | GA |
| Colquitt | GA |
| Cook | GA |
| Coweta | GA |
| Dawson | GA |
| DeKalb | GA |
| Douglas | GA |
| Echols | GA |
| Fayette | GA |
| Floyd | GA |
| Forsyth | GA |
| Fulton | GA |
| Gordon | GA |
| Gwinnett | GA |
| Hall | GA |
| Haralson | GA |
| Henry | GA |
| Irwin | GA |
| Lanier | GA |
| Lowndes | GA |
| Paulding | GA |
| Pickens | GA |
| Polk | GA |
| Rockdale | GA |
| Thomas | GA |
| Tift | GA |
| Walton | GA |
| Ware | GA |
| Honolulu | HI |
| Kauai | HI |
| Adair | IA |
| Boone | IA |
| Clarke | IA |
| Dallas | IA |
| Greene | IA |
| Guthrie | IA |
| Jasper | IA |
| Lucas | IA |
| Madison | IA |
| Marion | IA |
| Marshall | IA |
| Polk | IA |
| Story | IA |
| Union | IA |
| Warren | IA |
| Benewah | ID |
| Kootenai | ID |
| Calhoun | IL |
| Clinton | IL |
| Cook | IL |
| DuPage | IL |
| Greene | IL |
| Jersey | IL |
| Kane | IL |
| Lake | IL |
| Macoupin | IL |
| Madison | IL |
| McHenry | IL |
| Monroe | IL |
| Pike | IL |
| St. Clair | IL |
| Elkhart | IN |
| LaGrange | IN |
| Steuben | IN |
| Simpson | KY |
| Allen | LA |
| Beauregard | LA |
| Bienville | LA |
| Bossier | LA |
| Caddo | LA |
| Claiborne | LA |
| De Soto | LA |
| Natchitoches | LA |
| Orleans | LA |
| Rapides | LA |
| Red River | LA |
| Sabine | LA |
| St. Bernard | LA |
| St. Tammany | LA |
| Vernon | LA |
| Webster | LA |
| Barnstable | MA |
| Bristol | MA |
| Dukes | MA |
| Essex | MA |
| Middlesex | MA |
| Nantucket | MA |
| Norfolk | MA |
| Plymouth | MA |
| Suffolk | MA |
| Worcester | MA |
| Anne Arundel | MD |
| Baltimore | MD |
| Calvert | MD |
| Caroline | MD |
| Cecil | MD |
| Charles | MD |
| Dorchester | MD |
| Harford | MD |
| Howard | MD |
| Kent | MD |
| Prince George's | MD |
| Queen Anne's | MD |
| Somerset | MD |
| St. Mary's | MD |
| Talbot | MD |
| Wicomico | MD |
| Worcester | MD |
| Alcona | MI |
| Allegan | MI |
| Alpena | MI |
| Barry | MI |
| Berrien | MI |
| Branch | MI |
| Calhoun | MI |
| Cass | MI |
| Cheboygan | MI |
| Eaton | MI |
| Kalamazoo | MI |
| Kent | MI |
| Montmorency | MI |
| Oscoda | MI |
| Presque Isle | MI |
| St. Joseph | MI |
| Van Buren | MI |
| Becker | MN |
| Clay | MN |
| Marshall | MN |
| Norman | MN |
| Otter Tail | MN |
| Polk | MN |
| Wilkin | MN |
| Bates | MO |
| Benton | MO |
| Carroll | MO |
| Cass | MO |
| Cooper | MO |
| Franklin | MO |
| Henry | MO |
| Jackson | MO |
| Jefferson | MO |
| Johnson | MO |
| Lafayette | MO |
| Lincoln | MO |
| Morgan | MO |
| Pettis | MO |
| Pike | MO |
| Ray | MO |
| Saline | MO |
| St. Charles | MO |
| St. Clair | MO |
| St. Louis | MO |
| Warren | MO |
| Forrest | MS |
| George | MS |
| Hancock | MS |
| Harrison | MS |
| Jackson | MS |
| Pearl River | MS |
| Perry | MS |
| Stone | MS |
| Carter | MT |
| Powder River | MT |
| Camden | NC |
| Chowan | NC |
| Currituck | NC |
| Dare | NC |
| Gates | NC |
| Hyde | NC |
| Pasquotank | NC |
| Perquimans | NC |
| Tyrrell | NC |
| Washington | NC |
| Bottineau | ND |
| Cass | ND |
| Grand Forks | ND |
| Griggs | ND |
| McHenry | ND |
| McLean | ND |
| Mountrail | ND |
| Nelson | ND |
| Ransom | ND |
| Renville | ND |
| Richland | ND |
| Steele | ND |
| Traill | ND |
| Walsh | ND |
| Ward | ND |
| Hillsborough | NH |
| Merrimack | NH |
| Rockingham | NH |
| Atlantic | NJ |
| Burlington | NJ |
| Camden | NJ |
| Cumberland | NJ |
| Gloucester | NJ |
| Hunterdon | NJ |
| Mercer | NJ |
| Middlesex | NJ |
| Monmouth | NJ |
| Ocean | NJ |
| Salem | NJ |
| Somerset | NJ |
| Warren | NJ |
| Bernalillo | NM |
| Chaves | NM |
| Cibola | NM |
| Curry | NM |
| DoÃ±a Ana | NM |
| Lincoln | NM |
| Otero | NM |
| Quay | NM |
| Roosevelt | NM |
| Sandoval | NM |
| Santa Fe | NM |
| Sierra | NM |
| Socorro | NM |
| Torrance | NM |
| Valencia | NM |
| Clark | NV |
| Elko | NV |
| Esmeralda | NV |
| Lincoln | NV |
| Nye | NV |
| White Pine | NV |
| Cayuga | NY |
| Chenango | NY |
| Cortland | NY |
| Erie | NY |
| Genesee | NY |
| Herkimer | NY |
| Jefferson | NY |
| Lewis | NY |
| Madison | NY |
| Niagara | NY |
| Oneida | NY |
| Onondaga | NY |
| Orleans | NY |
| Oswego | NY |
| Seneca | NY |
| St. Lawrence | NY |
| Tompkins | NY |
| Wayne | NY |
| Wyoming | NY |
| Brown | OH |
| Butler | OH |
| Champaign | OH |
| Clark | OH |
| Clermont | OH |
| Clinton | OH |
| Darke | OH |
| Fayette | OH |
| Franklin | OH |
| Greene | OH |
| Hamilton | OH |
| Highland | OH |
| Logan | OH |
| Madison | OH |
| Miami | OH |
| Montgomery | OH |
| Pickaway | OH |
| Preble | OH |
| Shelby | OH |
| Union | OH |
| Warren | OH |
| Adair | OK |
| Cherokee | OK |
| Haskell | OK |
| Latimer | OK |
| Le Flore | OK |
| Sequoyah | OK |
| Berks | PA |
| Bucks | PA |
| Chester | PA |
| Delaware | PA |
| Lancaster | PA |
| Lehigh | PA |
| Montgomery | PA |
| Northampton | PA |
| Philadelphia | PA |
| York | PA |
| Bristol | RI |
| Newport | RI |
| Providence | RI |
| Berkeley | SC |
| Charleston | SC |
| Colleton | SC |
| Dorchester | SC |
| Georgetown | SC |
| Orangeburg | SC |
| Williamsburg | SC |
| Butte | SD |
| Harding | SD |
| Lawrence | SD |
| Bedford | TN |
| Cannon | TN |
| Cheatham | TN |
| Davidson | TN |
| DeKalb | TN |
| Dickson | TN |
| Franklin | TN |
| Giles | TN |
| Hickman | TN |
| Lawrence | TN |
| Lincoln | TN |
| Macon | TN |
| Marshall | TN |
| Maury | TN |
| Montgomery | TN |
| Moore | TN |
| Robertson | TN |
| Rutherford | TN |
| Smith | TN |
| Sumner | TN |
| Trousdale | TN |
| Williamson | TN |
| Wilson | TN |
| Aransas | TX |
| Bailey | TX |
| Bee | TX |
| Bell | TX |
| Bosque | TX |
| Brazoria | TX |
| Calhoun | TX |
| Cass | TX |
| Chambers | TX |
| Coke | TX |
| Concho | TX |
| Coryell | TX |
| Deaf Smith | TX |
| El Paso | TX |
| Ellis | TX |
| Falls | TX |
| Fort Bend | TX |
| Freestone | TX |
| Galveston | TX |
| Harris | TX |
| Harrison | TX |
| Hill | TX |
| Hudspeth | TX |
| Irion | TX |
| Kenedy | TX |
| Kleberg | TX |
| Liberty | TX |
| Limestone | TX |
| Marion | TX |
| McLennan | TX |
| Menard | TX |
| Montgomery | TX |
| Navarro | TX |
| Newton | TX |
| Nueces | TX |
| Panola | TX |
| Parmer | TX |
| Refugio | TX |
| Runnels | TX |
| Sabine | TX |
| San Patricio | TX |
| Schleicher | TX |
| Sterling | TX |
| Tom Green | TX |
| Box Elder | UT |
| Davis | UT |
| Juab | UT |
| Millard | UT |
| Tooele | UT |
| Weber | UT |
| Accomack | VA |
| Albemarle | VA |
| Caroline | VA |
| Charles City | VA |
| Charlottesville | VA |
| Chesapeake | VA |
| Culpeper | VA |
| Essex | VA |
| Fauquier | VA |
| Fluvanna | VA |
| Franklin | VA |
| Fredericksburg | VA |
| Gloucester | VA |
| Goochland | VA |
| Greene | VA |
| Hampton | VA |
| Hanover | VA |
| Henrico | VA |
| Isle of Wight | VA |
| James City | VA |
| King and Queen | VA |
| King George | VA |
| King William | VA |
| Lancaster | VA |
| Louisa | VA |
| Madison | VA |
| Mathews | VA |
| Middlesex | VA |
| New Kent | VA |
| Newport News | VA |
| Norfolk | VA |
| Northampton | VA |
| Northumberland | VA |
| Orange | VA |
| Page | VA |
| Poquoson | VA |
| Portsmouth | VA |
| Prince William | VA |
| Rappahannock | VA |
| Richmond | VA |
| Rockingham | VA |
| Southampton | VA |
| Spotsylvania | VA |
| Stafford | VA |
| Suffolk | VA |
| Surry | VA |
| Sussex | VA |
| Virginia Beach | VA |
| Warren | VA |
| Westmoreland | VA |
| Williamsburg | VA |
| York | VA |
| Adams | WA |
| Clallam | WA |
| Ferry | WA |
| Grays Harbor | WA |
| Island | WA |
| Jefferson | WA |
| King | WA |
| Kitsap | WA |
| Kittitas | WA |
| Lewis | WA |
| Lincoln | WA |
| Mason | WA |
| Pacific | WA |
| Pend Oreille | WA |
| Pierce | WA |
| San Juan | WA |
| Skagit | WA |
| Snohomish | WA |
| Spokane | WA |
| Stevens | WA |
| Thurston | WA |
| Whitman | WA |
| Adams | WI |
| Clark | WI |
| Columbia | WI |
| Jackson | WI |
| Juneau | WI |
| Kenosha | WI |
| La Crosse | WI |
| Marquette | WI |
| Milwaukee | WI |
| Monroe | WI |
| Portage | WI |
| Racine | WI |
| Richland | WI |
| Sauk | WI |
| Vernon | WI |
| Walworth | WI |
| Waushara | WI |
| Wood | WI |
| Campbell | WY |
| Crook | WY |

1. RADWIN, Ltd. Emergency Waiver Request, ET Docket No. 20-128 (filed May 1, 2020) (RADWIN Waiver Request). The devices for which RADWIN requests a waiver are certified under FCC ID: Q3K-BFJET5X. [↑](#footnote-ref-3)
2. RADWIN Waiver Request at 2. RADWIN identifies the customers (and the state in which they operate) for which the waiver would apply. *See* RADWIN Waiver Request, Att. 1. [↑](#footnote-ref-4)
3. 47 CFR § 15.407(a)(1)(i), (a)(3). [↑](#footnote-ref-5)
4. *Id.* [↑](#footnote-ref-6)
5. *Id.* In the 5.15-5.25 GHz band, fixed point-to-point systems may use an antenna with a gain of up to 23 dBi and up to 30 dBm transmitter power, i.e., an EIRP limit of 53 dBm. In the 5.725-5.85 GHz band, fixed point-to-point systems may operate with up to 30 dBm transmitter power and no limit on antenna gain. [↑](#footnote-ref-7)
6. RADWIN Waiver Request at 4. [↑](#footnote-ref-8)
7. *Id.* at 3-5. [↑](#footnote-ref-9)
8. Letter from Adi Nativ, RADWIN, to Marlene H. Dortch, Secretary, FCC, ET Docket No. 20-128, at 2 (Jun. 4, 2020) (RADWIN Jun. 4 *ex parte*). [↑](#footnote-ref-10)
9. *Id.* at 1-2. [↑](#footnote-ref-11)
10. *Id.* at 1. [↑](#footnote-ref-12)
11. *Id*. This list will be updated when customers contact RADWIN’s servers to make any changes to device settings while operating under the waiver. [↑](#footnote-ref-13)
12. *Id.* [↑](#footnote-ref-14)
13. *Id.* at 1-2. [↑](#footnote-ref-15)
14. *Id.* at 2. [↑](#footnote-ref-16)
15. *Office of Engineering and Technology Seeks Comment on RADWIN Ltd.’s Request for Emergency Waiver of Section 15.407(a) of the Rules for Unlicensed National Information Infrastructure Devices in the 5.15-5.25 GHz and 5.725-5.85 GHz Bands*, ET Docket No. 20-128, Public Notice, DA 20-497 (OET May 7, 2020). [↑](#footnote-ref-17)
16. Big Wave Wireless Comments at 1, PocketiNet Communications Comments at 1, Prairieburg Telephone Comments at 1, Rfwave Comments at 1, Valley Communications Association Comments at 1, Verso Networks Comments at 1. [↑](#footnote-ref-18)
17. Globalstar Comments at 3, 5G Automotive Association Comments at 1-2, NCTA Comments at 2, WiMax Forum Comments at 4. [↑](#footnote-ref-19)
18. *Id.* [↑](#footnote-ref-20)
19. Globalstar Comments at 3. [↑](#footnote-ref-21)
20. [47 CFR § 1.3](https://web2.westlaw.com/find/default.wl?tf=-1&rs=WLW8.08&fn=_top&sv=Split&tc=-1&docname=47CFRS1.3&ordoc=2011591254&findtype=L&db=1000547&vr=2.0&rp=%2ffind%2fdefault.wl&mt=Westlaw). *See also* [*ICO Global Communications (Holdings) Limited v. FCC*, 428 F.3d 264 (D.C. Cir. 2005)](https://web2.westlaw.com/find/default.wl?tf=-1&rs=WLW8.08&serialnum=2007579635&fn=_top&sv=Split&tc=-1&findtype=Y&ordoc=2011591254&db=506&vr=2.0&rp=%2ffind%2fdefault.wl&mt=Westlaw); [*Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164 (D.C. Cir. 1990)](https://web2.westlaw.com/find/default.wl?tf=-1&rs=WLW8.08&serialnum=1990047144&fn=_top&sv=Split&tc=-1&findtype=Y&ordoc=2011591254&db=350&vr=2.0&rp=%2ffind%2fdefault.wl&mt=Westlaw); [*WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969)](https://web2.westlaw.com/find/default.wl?tf=-1&rs=WLW8.08&serialnum=1969121124&fn=_top&sv=Split&tc=-1&findtype=Y&ordoc=2011591254&db=350&vr=2.0&rp=%2ffind%2fdefault.wl&mt=Westlaw). [↑](#footnote-ref-22)
21. *Northeast Cellular*, 897 F.2d at 1166; *see also* [*ICO Global Communications*, 428 F.3d at 269](https://web2.westlaw.com/find/default.wl?tf=-1&rs=WLW8.08&referencepositiontype=S&serialnum=2007579635&fn=_top&sv=Split&referenceposition=269&findtype=Y&tc=-1&ordoc=2011591254&db=506&vr=2.0&rp=%2ffind%2fdefault.wl&mt=Westlaw) (quoting *Northeast Cellular*); [*WAIT Radio*, 418 F.2d at 1157-59](https://web2.westlaw.com/find/default.wl?tf=-1&rs=WLW8.08&referencepositiontype=S&serialnum=1969121124&fn=_top&sv=Split&referenceposition=1157&findtype=Y&tc=-1&ordoc=2011591254&db=350&vr=2.0&rp=%2ffind%2fdefault.wl&mt=Westlaw). [↑](#footnote-ref-23)
22. *See, e.g.*, [*WAIT Radio*, 418 F.2d at 1157](https://web2.westlaw.com/find/default.wl?tf=-1&rs=WLW8.08&referencepositiontype=S&serialnum=1969121124&fn=_top&sv=Split&referenceposition=1157&findtype=Y&tc=-1&ordoc=2011591254&db=350&vr=2.0&rp=%2ffind%2fdefault.wl&mt=Westlaw) (stating that even though the overall objectives of a general rule have been adjudged to be in the public interest, it is possible that application of the rule to a specific case may not serve the public interest if an applicant's proposal does not undermine the public interest policy served by the rule); *Northeast Cellular*, 897 F.2d at 1166 (stating that in granting a waiver, an agency must explain why deviation from the general rule better serves the public interest than would strict adherence to the rule). [↑](#footnote-ref-24)
23. RADWIN Waiver Request at 3. [↑](#footnote-ref-25)
24. Globalstar Comments at 3, 5G Automotive Association Comments at 1-2, NCTA Comments at 2, WiMax Forum Comments at 4. [↑](#footnote-ref-26)
25. Globalstar Comments at 3. [↑](#footnote-ref-27)
26. FCC ID: Q3K-BFJET5X. [↑](#footnote-ref-28)
27. 47 CFR Section 1.924. [↑](#footnote-ref-29)