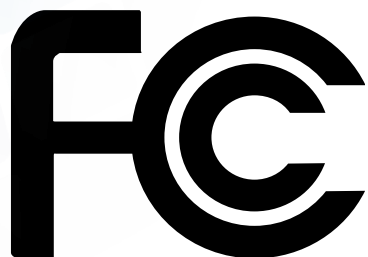


2.5 GHz Rural Tribal Priority Window and 3.5 GHz Order



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2.5 GHZ RURAL TRIBAL PRIORITY WINDOW

WHAT SPECTRUM IS AVAILABLE?

- 117.5 MHz of spectrum in the 2.5 GHz band, formerly known as EBS, or Educational Broadband Service
- Historically used for instructional video broadcasts within school districts or other educational entities
- Transitioned to broadband use starting in 2004
- In July 2019, the FCC decided to remove the eligibility restrictions, establishing open eligibility to access this band after the Tribal window closes
- Before unassigned areas of this band are auctioned, rural Tribal Nations will have the opportunity to apply for licenses

WHAT CAN 2.5 GHZ SPECTRUM DO?

- Supports broadband in rural areas
- Higher power limits and lower frequency than other available spectrum (unlicensed, 3.5 GHz) means better propagation and fewer base stations, lowering deployment costs
- Equipment compatible with 2.5 GHz spectrum is readily available “off the shelf” from a variety of vendors nationwide
- Some educational licensees have used 2.5 GHz spectrum to build their own broadband networks
- Most licensees also lease parts of their licenses to commercial providers, such as Sprint, which operates part of its LTE network on 2.5 GHz spectrum

THE POWER OF 2.5 GHZ

Nisqually Indian Tribe

- Located in rural Washington State
- Obtained 2.5 GHz spectrum via waiver in 2013
- Sought spectrum to enhance educational offerings, including access to online classes at K-12 and university levels
- Currently offers free internet connectivity to Tribal members via WiMax

THE POWER OF 2.5 GHZ

Havasupai Tribe

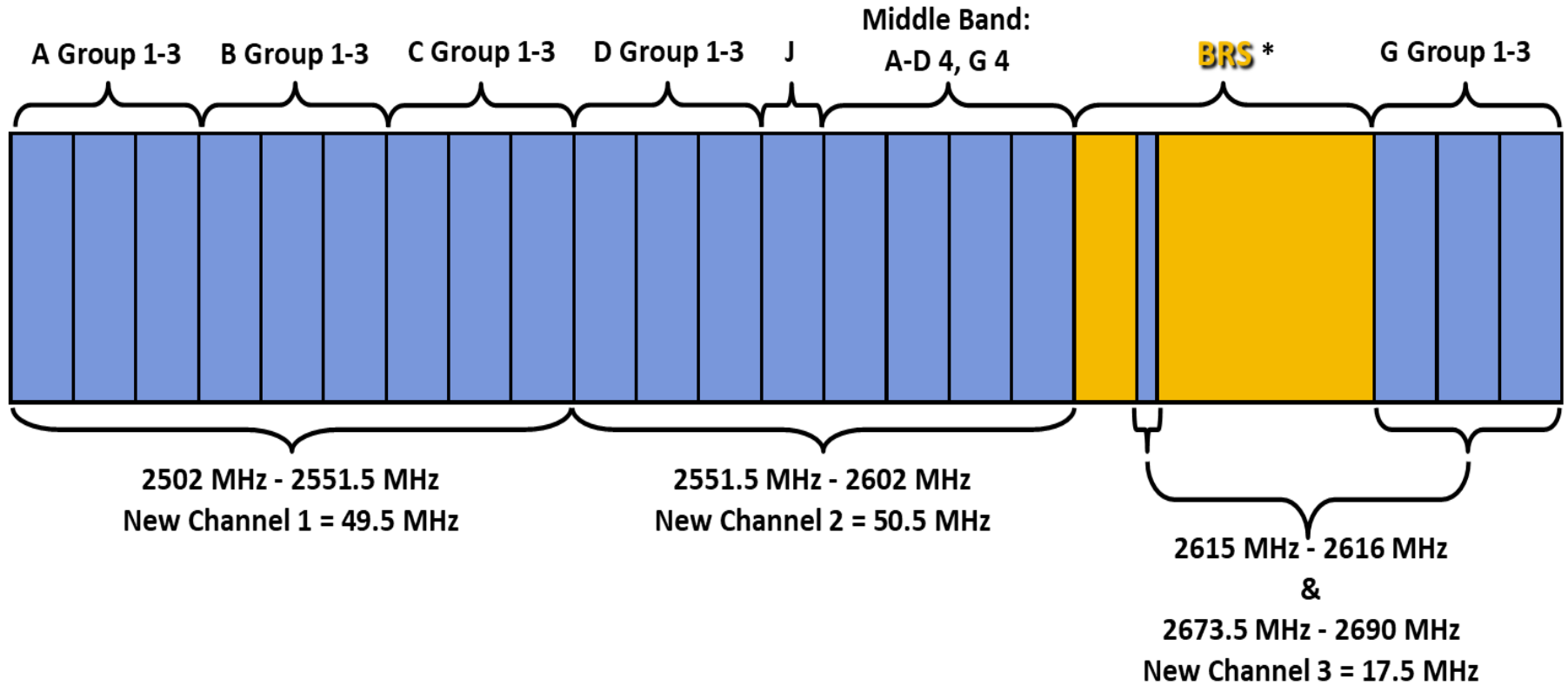
- Located in Supai, Arizona, on the floor of the Grand Canyon
- Received a waiver to build a network with 2.5 GHz spectrum in 2018
- Partnered with MuralNet, a nonprofit that facilitates rural network deployment by providing engineering expertise and solutions
- Deployed its network within weeks of gaining access to spectrum
- Currently, the Havasupai network provides online classes for students and continuing education for teachers
- A remote charter high school is also planned

GAINING ACCESS: THE TRIBAL PRIORITY WINDOW

WHAT IS AVAILABLE?

- Spectrum that is not currently licensed to another entity, up to the entire band
- Tribes may define their own desired license area, subject to some limitations:
- License area must be “rural” – may not contain an urbanized area or urban cluster area with a population >50,000
- License area must be within a Tribal reservation, or an off-reservation area already designated as Tribal land per Section 54.412 of FCC rules

THE 2.5 GHz BAND PLAN



* BRS is the Broadband Radio Service; spectrum shown in yellow is not available as part of this window.

WHERE IS 2.5 GHz SPECTRUM AVAILABLE?

- Current licenses cover about 85% of the US population, but only about 50% of the land area
- This spectrum is more widely available west of the Mississippi, and in rural or remote areas
- Some areas may have some channels available even though a current licensee holds other channels
- To explore availability in your area, you can use the FCC's Universal Licensing System (ULS), which has mapping capabilities
- The FCC has also developed a mapping tool to help Tribes identify their eligible area and available spectrum

WHO CAN APPLY?

- Federally-recognized American Indian Tribes and Alaska Native Villages
- Other entities controlled and majority-owned by a federally-recognized Tribe or consortium of Tribes
- Examples: a Tribal university (if owned by a Tribe or consortium), or a corporation set up by a Tribe to operate its communications network
- Tribal applicants must have a local presence in their desired license area
- Eligibility is limited to unassigned spectrum on Rural Tribal Lands

TYPE OF LICENSE: OVERLAY LICENSES

- Licenses awarded in the Tribal Priority Window, and in the subsequent auction, will be “overlay licenses”
- An overlay license gives the licensee the right to immediately provide service in the areas and frequencies not assigned to an existing incumbent license.
- An overlay license DOES NOT give the overlay licensee the right to operate in an area covered by an existing incumbent license, even if the incumbent is not using it.
- Overlay licensees automatically acquire spectrum covered by an overlapping incumbent license if that incumbent license is revoked or cancelled

BUILDOUT REQUIREMENTS & RESTRICTIONS ON LICENSES

- Applicants should only apply for license areas on which they can meet buildout requirements
- If providing mobile or fixed broadband service, must provide service that covers 50% of the population of the license area within two years, and 80% within five years
- If providing a point-to-point service, must operate one link for each 50,000 people in the license area within two years, and one link for each 25,000 people within five years
- If the final buildout requirement is not met, license is automatically cancelled
- Tribal licensees may not sell or transfer their licenses until after buildout requirements have been met
- Leasing is permitted; service provided by a lessee counts toward buildout

APPLICATION PROCESS

- The window will be conducted prior to the auction, and the preliminary work has already begun
- The window will be open for 182 days from February 3, 2020 until August 3, 2020.
- Application process will use ULS, the Wireless Bureau's online application portal

APPLICATION COMPONENTS

- Specifics regarding the application filing process will be announced in the forthcoming Procedures Public Notice
- At a minimum, applicants should be prepared to show:
 - A description of the desired license area
 - Exhibits showing compliance with requirements: applicant eligibility, rural nature of license area, local presence, etc.

MUTUALLY EXCLUSIVE APPLICATIONS

- “Mutually exclusive” applications are applications that cannot both (or all) be granted at the same time, because they overlap in area and in spectrum
- Mutually exclusive applications should be avoided, if possible, by advance planning among potentially conflicting applicants
- If mutually exclusive applications occur, the relevant licenses may be legally required to be auctioned between the parties
- If the licenses proceed to auction, the parties can no longer communicate to resolve the issue, due to anti-trust laws and FCC regulations

E-MAIL, WEB SITE AND MAPPING TOOL

- E-mail address for questions or requests relating to the window – RuralTribalWindow@fcc.gov
- On November 1, 2019, the Commission announced the launch of a webpage that provides information about the Rural Tribal Window.
- The website is located at www.fcc.gov/RuralTribalWindow.
- Website provides access to a mapping tool that can be used by Tribal entities to help them assess whether and to what extent there is unassigned 2.5 GHz spectrum available over their eligible Tribal lands.

3.5 GHZ BAND

IMPORTANCE OF 3.5 GHZ BAND

- Desirable combination of coverage and capacity
- Low-cost entry points to mid-band spectrum
- Attractive propagation and channel width for rural areas
- Key opportunity for deployment of advanced wireless services to Tribal areas

POSSIBLE USE CASES FOR 3.5 GHZ BAND

- Flexible operating rules allow for a wide variety of potential use cases, including:
 - Wireless broadband access
 - 5G services
 - Internet of Things
 - Intelligent manufacturing
 - Power generation and sensor technologies
 - Wireless backhaul

ACCESS TO 3.5 GHZ BAND

- Hybrid sharing regime managed by a Spectrum Access System
- Priority Access Licenses
- General Authorized Access

DIFFERENCES BETWEEN PALS AND GAA

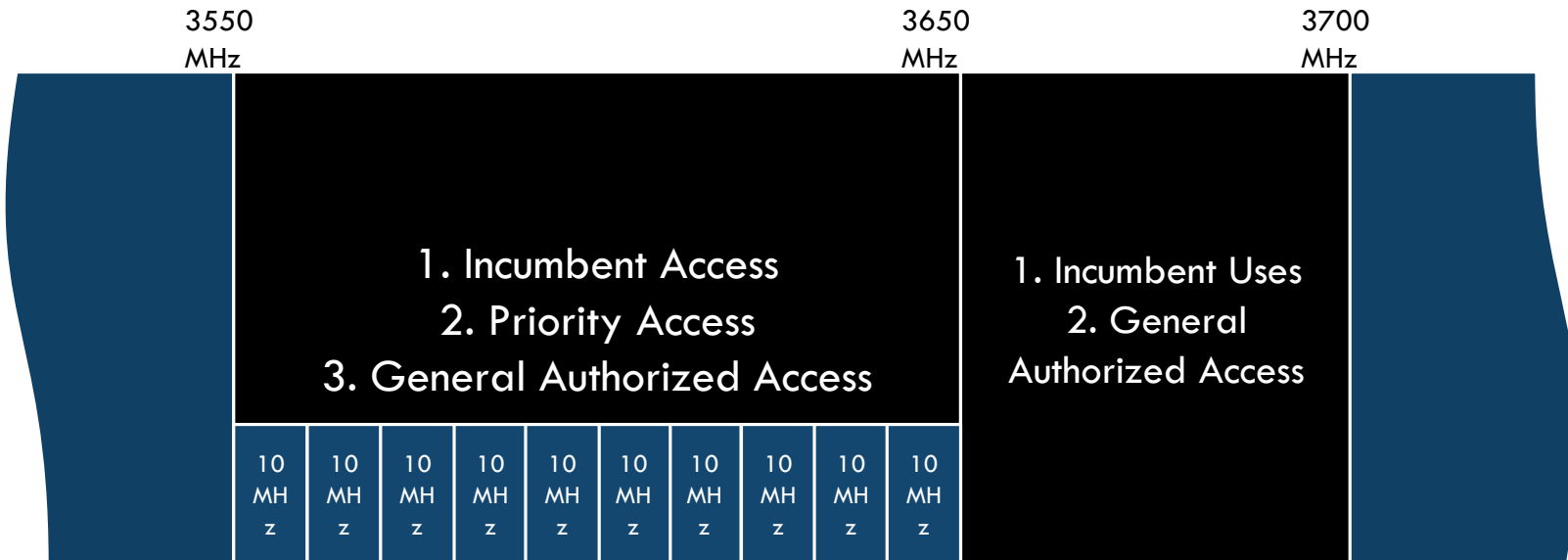
Priority access Licenses (PALs)

- 10 megahertz unpaired channels within the 3550-3650 MHz band
- Licensed by auction for a ten-year renewable term on a county-by-county basis
- No more than seven licenses will be issued in any county
- Substantial service requirement at the end of the license term
- Tribal lands bidding credit

General authorized access

- Operations in the 3550-3700 MHz band
- Licensed by rule
- At least 80 megahertz in any given county available to GAA users
- Can operate on any “unused” Priority Access License channels
- Non-exclusive use
- Access to spectrum managed by Spectrum Access Systems

3.5 GHZ BAND PLAN



- Each license is a 10 MHz channel in the 3550-3650 MHz band
- No more than seven PALs will be issued in any county
- At least 80 MHz available to GAA users in any given county

TIMING

- Prior to Operations
 - Priority Access Licenses and General Authorized Access Users must register fixed stations or networks with the Spectrum Access System
 - The Spectrum Access System must authorize Priority Access Licenses and General Authorized Access Users to operate registered stations
- Initial Commercial Deployment of Spectrum Access Systems

CONTACTS

Wireless Bureau contacts:

2.5 GHz Web Page: www.fcc.gov/RuralTribalWindow

3.5 GHz Web Page: www.fcc.gov/35-ghz-band-overview

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