



Spektrum Metrics

Global Spectrum Ownership Insights & Analytics

Web Spectrum Viewer

The Web Spectrum Viewer is a web analysis tool which allows users to visualize and analyze the current spectrum ownership for all of the mobile carrier and millimeter wave frequency bands at a county-level for all 50 states and US territories. The Web Spectrum Viewer provides analysis for over 2,400 US carriers and spectrum holders.

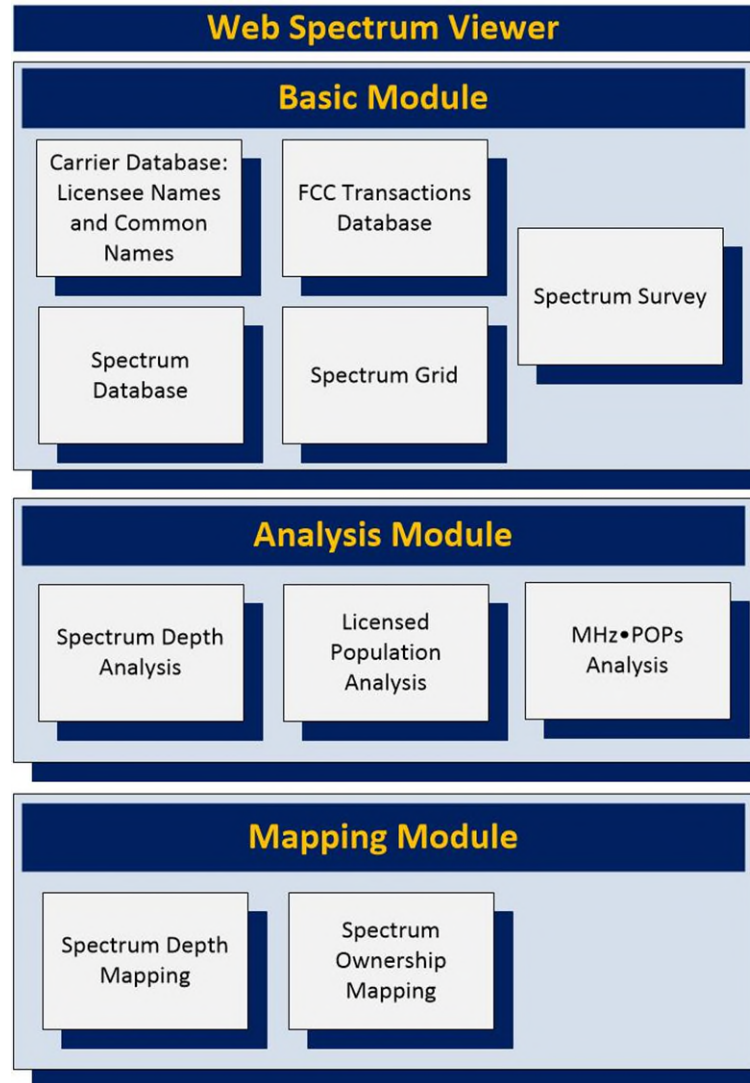


Web Spectrum Viewer

The Web Spectrum Viewer is designed in a module approach allowing each user to customize which features will be included (Basic, Analysis, and Mapping) and which spectrum bands (Mobile Carrier or Millimeter Wave) will be included in the analysis.



Modules



Web Spectrum Viewer Database

The Web Spectrum Viewer includes **4 sources of data for analysis:**

| Source | Description |
|----------------------------|---|
| License Holdings (FCC) | Represents the current licensee for each block of spectrum. |
| Lease Holdings (Lease) | Reflects the carrier that is leasing a block of spectrum. Includes the Lease ID. |
| Current Holdings (Current) | Represents the current operator of each spectrum block including spectrum leases. |
| Future Holdings (Future) | Represents the proposed ownership or leasing changes that have been filed with the FCC. |



The Web Spectrum Viewer Database is updated monthly based upon filed FCC transactions.

Spectrum Bands

Mobile Carrier:

| Bands | Frequency | Details |
|--------------|-----------|---|
| 600 MHz | 600 MHz | 600MHz |
| 700 MHz | 700 MHz | 700MHz |
| Cellular/SMR | 850 MHz | Cellular/SMR |
| PCS | 1900 MHz | Personal Communication Service |
| AWS 1/2/3/4 | 1700 MHz | Advanced Wireless Services |
| WCS | 2.3 GHz | Wireless Communication Service |
| EBS/BRS | 2.5 GHz | Educational Broadcast Service / Broadband Radio Service |
| 3.45 GHz | 3.45 GHz | 3.45GHz Service |
| CBRS | 3.5 GHz | Citizens Band Radio Service |
| C-Band | 3.7 GHz | C-Band Satellite Service |

Millimeter Wave:

| Bands | Frequency | Details |
|--------------|-------------------|--|
| 12.2 GHz | 12.2 - 12.7 GHz | Multichannel Video Distribution and Data Service |
| 24 GHz | 24.25 - 25.25 GHz | 24 GHz |
| 28 GHz | 27.5 - 28.35 GHz | 28 GHz - (LMDS A1) |
| 28-31 GHz | 28-31 GHz | LMDS (A2, B1, B2) |
| Lower 37 GHz | 37 - 37.6 GHz | Lower 37 GHz |
| Upper 37 GHz | 37.6 - 38.6 GHz | Upper 37 GHz |
| 39 GHz | 38.6 - 40 GHz | 39 GHz |
| 47 GHz | 47.2 - 48.2 GHz | 47 GHz |



Web Spectrum Viewer



✉ Email



🔒 Password

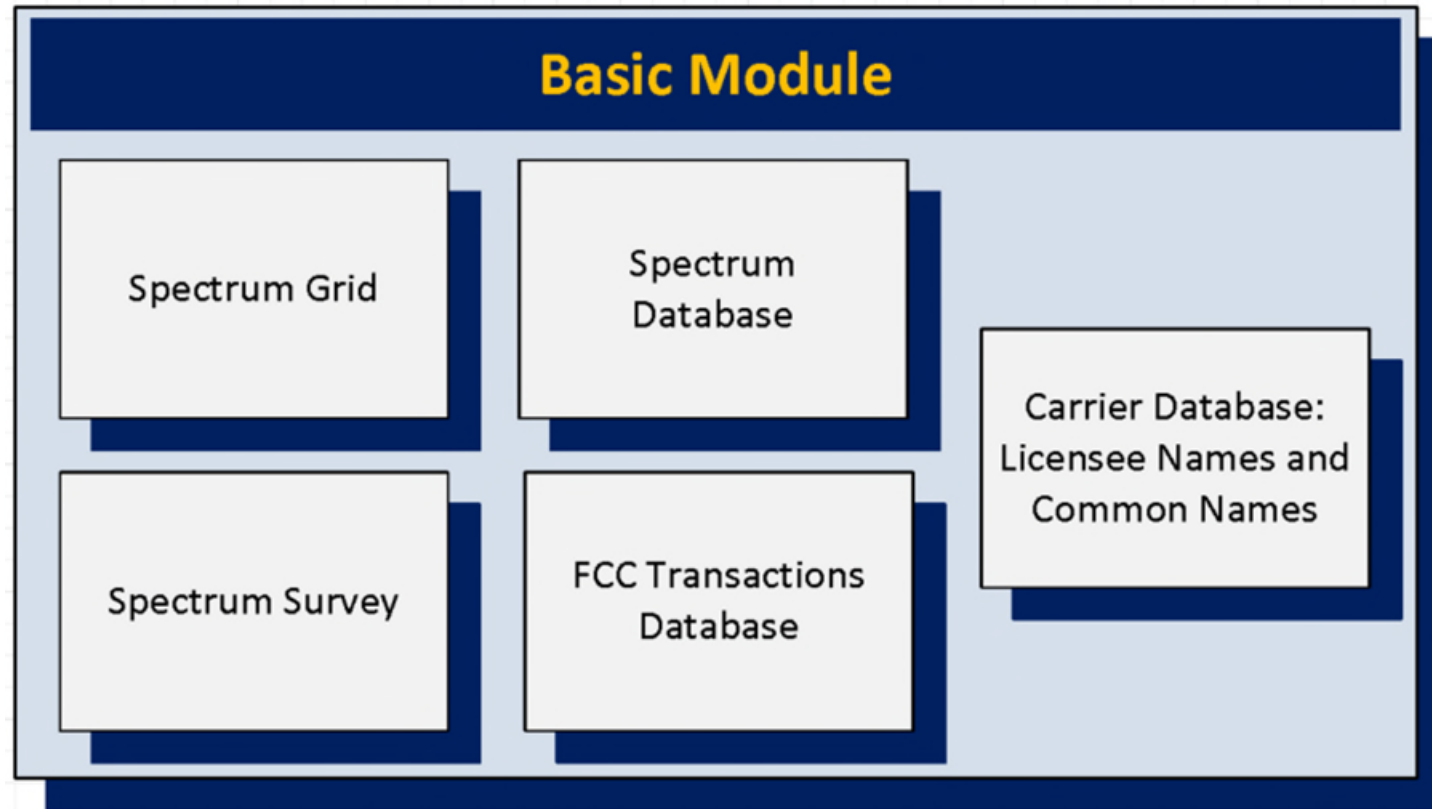


SIGN IN

LOGIN REQUEST



Basic Module



Spectrum Grid

- The Spectrum Grid displays the primary spectrum owner for each block of spectrum at a county-level.
- Includes the following reference information:
 - NR band classifications
 - Uplink/downlink spectrum allocations
 - Frequency start/stop, channel bandwidth
 - Color-coded for carrier branding colors
- Filters are available to select specific bands, sub bands, data types, and geographic regions



Filters

| | | | |
|-----------------|----------------------|---|-------------------------------|
| Band | Mobile | Sub Band | All |
| Region | Choose Region | Data Type | Future |
| Regional Values | Choose Region Values | <input checked="" type="checkbox"/> Frequencies | Reset Filters |

Spectrum Grid

Carrier Information

- Clicking on a cell in the Spectrum Grid opens a Carrier Information window that will display the following information for that particular cell:
 - State/County
 - Callsign / Channel
 - Radio Service Description
 - FCC, Lease, Current, and Future Licensee name
 - Lease ID if applicable
 - County Population for license

Carrier Information

Search:

| CallSign | RadioServiceDesc | ChannelBlock | County | State | FipsCode | Population | SpecCode | LowerBand | UpperBand | TotalSpectrum | FCC | FCC_CC | Lease | LeaseCC | LeaseID2 | Current | CurrentCC |
|-------------------------|------------------|--------------|---------------|-------|----------|------------|----------|-----------|-----------|---------------|-------------------|--------|-------|---------|----------|-------------------|-----------|
| WQZM761 | 600MHz Band | A | Hudson County | NJ | 34017 | 634266 | BIAD | 617 | 622 | 5 | Comcast OTR1, LLC | XFI | | | | Comcast OTR1, LLC | XFI |

Showing 1 to 1 of 1 entries

- The Callsign and Lease ID fields are hyperlinked to the FCC ULS pages to look up additional information for each callsign or lease.

FCC ULS

Copy the value of Callsign and click the 'Open FCC ULS' button.

CallSign = WQZM761

[Open FCC ULS](#)



Spectrum Survey

The Spectrum Survey displays the primary licensees for an entire county in a table that can be exported to Excel. This table is sorted from lowest frequency to highest frequency and it contains columns that include the licensee for each block of spectrum along with the current and future operator indicators.

The Spectrum Survey is used for small cell and DAS deployment where it is important to know the specific channels that a carrier is authorized to use. It is also helpful for co-channel interference analysis and RF walk planning.



Spectrum Survey

Spectrum Survey (Total Records : 429)

[Export Table](#)

Search:

| CallSign | RadioServiceDesc | ChannelBlock | State | County | LowerBand | UpperBand | TotalSpectrum | Current | CurrentCC | Future | FutureCC |
|-------------|-------------------------------------|--------------|-------|--------------------|-----------|-----------|---------------|----------------------------------|-----------|----------------------------------|----------|
| WQZM457 | 600MHz Band | A | CA | Los Angeles County | 617 | 622 | 5 | ParkerB.com Wireless L.L.C. | DSH | ParkerB.com Wireless L.L.C. | DSH |
| WQZM458 | 600MHz Band | B | CA | Los Angeles County | 622 | 627 | 5 | ParkerB.com Wireless L.L.C. | DSH | ParkerB.com Wireless L.L.C. | DSH |
| WQZL800 | 600MHz Band | C | CA | Los Angeles County | 627 | 632 | 5 | Nextel West Corp. | TMO | Nextel West Corp. | TMO |
| WQZL801 | 600MHz Band | D | CA | Los Angeles County | 632 | 637 | 5 | Nextel West Corp. | TMO | Nextel West Corp. | TMO |
| WQZL802 | 600MHz Band | E | CA | Los Angeles County | 637 | 642 | 5 | Nextel West Corp. | TMO | Nextel West Corp. | TMO |
| WRCQ553 | 600MHz Band | F | CA | Los Angeles County | 642 | 647 | 5 | T-Mobile License LLC | TMO | Nextel West Corp. | TMO |
| BL_PEA002_G | 600MHz Band | G | CA | Los Angeles County | 647 | 652 | 5 | FCC | FCC | FCC | FCC |
| WQZM457 | 600MHz Band | A | CA | Los Angeles County | 663 | 668 | 5 | ParkerB.com Wireless L.L.C. | DSH | ParkerB.com Wireless L.L.C. | DSH |
| WQZM458 | 600MHz Band | B | CA | Los Angeles County | 668 | 673 | 5 | ParkerB.com Wireless L.L.C. | DSH | ParkerB.com Wireless L.L.C. | DSH |
| WQZL800 | 600MHz Band | C | CA | Los Angeles County | 673 | 678 | 5 | Nextel West Corp. | TMO | Nextel West Corp. | TMO |
| WQZL801 | 600MHz Band | D | CA | Los Angeles County | 678 | 683 | 5 | Nextel West Corp. | TMO | Nextel West Corp. | TMO |
| WQZL802 | 600MHz Band | E | CA | Los Angeles County | 683 | 688 | 5 | Nextel West Corp. | TMO | Nextel West Corp. | TMO |
| WRCQ553 | 600MHz Band | F | CA | Los Angeles County | 688 | 693 | 5 | T-Mobile License LLC | TMO | Nextel West Corp. | TMO |
| BL_PEA002_G | 600MHz Band | G | CA | Los Angeles County | 693 | 698 | 5 | FCC | FCC | FCC | FCC |
| WQIQ717 | 700 MHz Lower Band (Blocks A, B, E) | A | CA | Los Angeles County | 698 | 704 | 6 | Nextel West Corp. | TMO | Nextel West Corp. | TMO |
| WQIQ721 | 700 MHz Lower Band (Blocks A, B, E) | B | CA | Los Angeles County | 704 | 710 | 6 | AT&T Mobility LLC | ATT | AT&T Mobility LLC | ATT |
| WPWU990 | 700 MHz Lower Band (Blocks C, D) | C | CA | Los Angeles County | 710 | 716 | 6 | AT&T Mobility II LLC | ATT | AT&T Mobility II LLC | ATT |
| WPWU989 | 700 MHz Lower Band (Blocks C, D) | D | CA | Los Angeles County | 716 | 722 | 6 | New Cingular Wireless PCS, LLC | ATT | New Cingular Wireless PCS, LLC | ATT |
| WQIZ619 | 700 MHz Lower Band (Blocks A, B, E) | E | CA | Los Angeles County | 722 | 728 | 6 | FiberTower Spectrum Holdings LLC | ATT | FiberTower Spectrum Holdings LLC | ATT |
| WQIQ717 | 700 MHz Lower Band (Blocks A, B, E) | A | CA | Los Angeles County | 728 | 734 | 6 | Nextel West Corp. | TMO | Nextel West Corp. | TMO |

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Filters

Select County

Select Band



Spectrum Database

- Provides query access to the entire Mobile Carrier Database or the Millimeter Wave Database.
- Multiple filters can be applied to narrow the results
- Results can be export as a text file (.csv)

The Spectrum Database is used to identify spectrum records meeting a specific set of conditions. For example, all of the callsigns for 600MHz licenses in Texas could be compiled and exported to Excel.



Spectrum Database

Mobile Carrier Database (Total Records : 957947)

Search:

| CallSign | RadioServiceDesc | ChannelBlock | County | State | Population | SpecCode | LowerBand | UpperBand | TotalSpectrum | FCC | FCC_CC |
|-------------|---|--------------|----------------|-------|------------|----------|-------------|-------------|---------------|--------------------------|--------|
| AT_CMA083_G | AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz) | G1 | Baldwin County | AL | 182265 | AWS3G1D | 2155 | 2157.5 | 2.5 | FCC | FCC |
| AT_CMA083_G | AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz) | G1 | Baldwin County | AL | 182265 | AWS3G1U | 1755 | 1757.5 | 2.5 | FCC | FCC |
| AT_CMA083_G | AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz) | G2 | Baldwin County | AL | 182265 | AWS3G2D | 2157.5 | 2160 | 2.5 | FCC | FCC |
| AT_CMA083_G | AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz) | G2 | Baldwin County | AL | 182265 | AWS3G2U | 1757.5 | 1760 | 2.5 | FCC | FCC |
| AT_EA079_H | AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz) | H2 | Autauga County | AL | 54571 | AWS3H2D | 2162.5 | 2165 | 2.5 | FCC | FCC |
| AT_EA079_H | AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz) | H2 | Autauga County | AL | 54571 | AWS3H2U | 1762.5 | 1765 | 2.5 | FCC | FCC |
| AT_EA079_H | AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz) | H1 | Autauga County | AL | 54571 | AWS3H1D | 2160 | 2162.5 | 2.5 | FCC | FCC |
| AT_EA079_H | AWS-3 (1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz) | H1 | Autauga County | AL | 54571 | AWS3H1U | 1760 | 1762.5 | 2.5 | FCC | FCC |
| B302 | Broadband Radio Service | H2 | Baldwin County | AL | 182265 | BRSKH2 | 2614.333333 | 2614.666666 | 0.333333 | TDI Acquisition Sub, LLC | TMO |
| B302 | Broadband Radio Service | F2 | Baldwin County | AL | 123420 | BRSKF2 | 2616.333331 | 2616.666664 | 0.333333 | TDI Acquisition Sub, LLC | TMO |
| B302 | Broadband Radio Service | H3 | Baldwin County | AL | 182265 | BRSKH3 | 2614.666666 | 2614.999999 | 0.333333 | TDI Acquisition Sub, LLC | TMO |
| B302 | Broadband Radio Service | H1 | Baldwin County | AL | 182265 | BRSKH1 | 2614 | 2614.333333 | 0.333333 | TDI Acquisition Sub, LLC | TMO |
| B302 | Broadband Radio Service | F4 | Baldwin County | AL | 123420 | BRSF4 | 2602 | 2608 | 6 | TDI Acquisition Sub, LLC | TMO |
| B302 | Broadband Radio Service | F1 | Baldwin County | AL | 123420 | BRSKF1 | 2615.999998 | 2616.333331 | 0.333333 | TDI Acquisition Sub, LLC | TMO |

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Spectrum Database Query

Mobile Carrier Database Filters

Select Query Table: Mobile Carrier Database

Options

State: Select State County: Select County

Selected Fields: No Selection Selected Fields Values: No Selection

Wild Card Search:

Note: You need to save each filter to preserve it's effect on the grid

Saved Filters

| | Filter |
|--------|------------------------------------|
| Delete | [State] = 'TX' |
| Delete | [RadioServiceDesc] = '600MHz Band' |



Spectrum Database Export



| ID | StateCntyspec1 | CallSign | RadioServiceCode | RadioServiceDesc | MarketCode | MarketName | ChannelBlock |
|---------|-----------------------|-------------|------------------|------------------|------------|-----------------|--------------|
| 631659 | TXAnderson CountyBIDD | WQZL599 | WT | 600MHz Band | PEA275 | Corsicana, TX | D |
| 602692 | TXAnderson CountyBIGU | BI_PEA275_G | WT | 600MHz Band | PEA275 | Corsicana, TX | G |
| 289891 | TXAnderson CountyBIGD | BI_PEA275_G | WT | 600MHz Band | PEA275 | Corsicana, TX | G |
| 559553 | TXAnderson CountyBICD | WQZL598 | WT | 600MHz Band | PEA275 | Corsicana, TX | C |
| 457635 | TXAnderson CountyBIBU | WQZL597 | WT | 600MHz Band | PEA275 | Corsicana, TX | B |
| 565145 | TXAnderson CountyBICU | WQZL600 | WT | 600MHz Band | PEA275 | Corsicana, TX | C |
| 181260 | TXAnderson CountyBIED | WQZL600 | WT | 600MHz Band | PEA275 | Corsicana, TX | E |
| 458604 | TXAnderson CountyBIFU | BI_PEA275_F | WT | 600MHz Band | PEA275 | Corsicana, TX | F |
| 123027 | TXAnderson CountyBIBD | WQZL597 | WT | 600MHz Band | PEA275 | Corsicana, TX | B |
| 281680 | TXAnderson CountyBIID | BI_PEA275_F | WT | 600MHz Band | PEA275 | Corsicana, TX | F |
| 102822 | TXAnderson CountyBIDU | WQZL599 | WT | 600MHz Band | PEA275 | Corsicana, TX | D |
| 157467 | TXAnderson CountyBICU | WQZL598 | WT | 600MHz Band | PEA275 | Corsicana, TX | C |
| 1530009 | TXAnderson CountyBIAD | WQZM555 | WT | 600MHz Band | PEA275 | Corsicana, TX | A |
| 1530005 | TXAnderson CountyBIAU | WQZM555 | WT | 600MHz Band | PEA275 | Corsicana, TX | A |
| 559560 | TXAndrews CountyBICU | WQZK663 | WT | 600MHz Band | PEA363 | Big Spring, TX | C |
| 157463 | TXAndrews CountyBICU | WQZK663 | WT | 600MHz Band | PEA363 | Big Spring, TX | C |
| 565145 | TXAndrews CountyBIEU | WQZK667 | WT | 600MHz Band | PEA363 | Big Spring, TX | E |
| 102823 | TXAndrews CountyBIDU | WQZK665 | WT | 600MHz Band | PEA363 | Big Spring, TX | D |
| 457639 | TXAndrews CountyBIBU | WQZK662 | WT | 600MHz Band | PEA363 | Big Spring, TX | B |
| 123023 | TXAndrews CountyBIBD | WQZK662 | WT | 600MHz Band | PEA363 | Big Spring, TX | B |
| 631660 | TXAndrews CountyBIDD | WQZK665 | WT | 600MHz Band | PEA363 | Big Spring, TX | D |
| 181261 | TXAndrews CountyBIED | WQZK667 | WT | 600MHz Band | PEA363 | Big Spring, TX | E |
| 1528480 | TXAndrews CountyBIAD | WQZM263 | WT | 600MHz Band | PEA363 | Big Spring, TX | A |
| 1528489 | TXAndrews CountyBIAU | WQZM263 | WT | 600MHz Band | PEA363 | Big Spring, TX | A |
| 774620 | TXAndrews CountyBIFU | WQZR989 | WT | 600MHz Band | PEA363 | Big Spring, TX | F |
| 774624 | TXAndrews CountyBIFD | WQZR989 | WT | 600MHz Band | PEA363 | Big Spring, TX | F |
| 774632 | TXAndrews CountyBIGU | WQZR990 | WT | 600MHz Band | PEA363 | Big Spring, TX | G |
| 774635 | TXAndrews CountyBIGD | WQZR990 | WT | 600MHz Band | PEA363 | Big Spring, TX | G |
| 559561 | TXAngelina CountyBICD | WQZL622 | WT | 600MHz Band | PEA133 | Nacogdoches, TX | C |
| 123029 | TXAngelina CountyBIBD | WQZL621 | WT | 600MHz Band | PEA133 | Nacogdoches, TX | B |
| 565143 | TXAngelina CountyBICU | WQZL624 | WT | 600MHz Band | PEA133 | Nacogdoches, TX | C |
| 631661 | TXAngelina CountyBIDD | WQZL623 | WT | 600MHz Band | PEA133 | Nacogdoches, TX | D |
| 579240 | TXAngelina CountyBIAU | WQZM561 | WT | 600MHz Band | PEA133 | Nacogdoches, TX | A |



Transactions

- Displays filed FCC transactions for all of the mobile carrier and millimeter wave frequencies.
- Queries provide quick access to specific carrier, call sign, or frequency band transactions.
- Details includes markets, licenses, as well as license disaggregations (county or frequency).
- Application File Numbers, Call Signs, and Lease Numbers all link to the FCC ULS for access to additional details.

Our customers utilize the Transactions tool to display the details of a particular transaction, display the results from a recent auction, or to check the status of a pending transaction.



Transactions

Transactions (Total Records : 164888)

Search:

| DigestDate | Purpose | ReceiptDate | ActionDate | FCCStatus | FileNumber | CallSign | LeaseNewCallSign | Assignor | Assignee | Partition | Radio |
|----------------------|---------|-------------|------------------------|-------------|------------|----------|------------------|----------------------------------|--------------------------------------|-----------|----------------------------|
| 9/5/2018 12:00:00 AM | AA | 8/30/2018 | 12/14/2018 12:00:00 AM | Consummated | 0008327302 | WQGD619 | null | Flat Wireless, LLC | AT&T Mobility Spectrum LLC | null | AW - AWS, 1710-J |
| 9/5/2018 12:00:00 AM | AA | 8/30/2018 | 1/30/2019 12:00:00 AM | Consummated | 0008338382 | WPOJ780 | null | Nsight Spectrum, LLC | AT&T Mobility Spectrum LLC | null | CW - I |
| 9/5/2018 12:00:00 AM | AA | 8/30/2018 | 1/30/2019 12:00:00 AM | Consummated | 0008338382 | WPOJ781 | null | Nsight Spectrum, LLC | AT&T Mobility Spectrum LLC | null | CW - I |
| 9/5/2018 12:00:00 AM | AA | 8/30/2018 | 1/30/2019 12:00:00 AM | Consummated | 0008338382 | WPSP791 | null | Nsight Spectrum, LLC | AT&T Mobility Spectrum LLC | null | CW - I |
| 9/5/2018 12:00:00 AM | AA | 8/30/2018 | 1/30/2019 12:00:00 AM | Consummated | 0008338382 | WQGI506 | null | Nsight Spectrum, LLC | AT&T Mobility Spectrum LLC | null | AW - AWS, 1710-J |
| 9/5/2018 12:00:00 AM | AA | 8/30/2018 | 1/30/2019 12:00:00 AM | Consummated | 0008338382 | WQGI507 | null | Nsight Spectrum, LLC | AT&T Mobility Spectrum LLC | null | AW - AWS, 1710-J |
| 9/5/2018 12:00:00 AM | AA | 8/31/2018 | 2/8/2019 12:00:00 AM | Consummated | 0008341592 | WQYB214 | null | USCOC OF GREATER OKLAHOMA, LLC | AT&T Wireless Services 3 LLC | null | AT - AWS-3 (1695-1710 MHz, |
| 9/5/2018 12:00:00 AM | LE | 8/28/2018 | 12/14/2018 12:00:00 AM | Granted | 0008338339 | WOF49 | L000018868 | Chicagoland Television News, LLC | Clearwire Spectrum Holdings III, LLC | null | BR - Broac |
| 9/5/2018 12:00:00 AM | TC | 8/28/2018 | 3/21/2019 12:00:00 AM | Consummated | 0008308784 | KNKA411 | null | Tampnet USA LLC | Colombo Topco Limited | null | CI |
| 9/5/2018 12:00:00 AM | TC | 8/28/2018 | 3/21/2019 12:00:00 AM | Consummated | 0008308784 | KNKA412 | null | Tampnet USA LLC | Colombo Topco Limited | null | CI |
| 9/5/2018 12:00:00 AM | TC | 8/28/2018 | 3/21/2019 12:00:00 AM | Consummated | 0008308784 | WQGD642 | null | Tampnet USA LLC | Colombo Topco Limited | null | AW - AWS, 1710-J |
| 9/5/2018 12:00:00 AM | TC | 8/28/2018 | 3/21/2019 12:00:00 AM | Consummated | 0008308784 | WQGD643 | null | Tampnet USA LLC | Colombo Topco Limited | null | AW - AWS, 1710-J |
| 9/5/2018 12:00:00 AM | LT | 8/28/2018 | 2/20/2019 12:00:00 AM | Granted | 0008309647 | WQWD617 | L000020229 | Tampnet Licensee LLC | Colombo Topco Limited | null | CI |
| 9/5/2018 12:00:00 AM | LT | 8/28/2018 | 2/20/2019 12:00:00 AM | Granted | 0008309647 | WQWD618 | L000020230 | Tampnet Licensee LLC | Colombo Topco Limited | null | CI |

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Transactions Queries

Transaction Filters

Selected Fields: Selected Fields Values:

Wild Card Search:

Note: You need to save each filter to preserve it's effect on the grid

Saved Filters

| Filter |
|---------------------------------|
| Assignor = 'LB License Co, LLC' |
| Purpose = 'AA' |

Transactions (Total Records : 16)

Search:

| DigestDate | Purpose | ReceiptDate | ActionDate | FCCStatus | FileNumber | CallSign | LeaseNewCallSign | Assignor | Assignee | Partition | RadioService | Market | ChannelBlock | CountyState |
|----------------------|---------|-------------|----------------------|-----------|------------|----------|------------------|--------------------|----------------------|-----------|-------------------|---------------------------------------|--------------|-------------|
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168420 | WQZM721 | null | LB License Co, LLC | T-Mobile License LLC | null | WT - 600 MHz Band | PEA011 - Atlanta, GA | D | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168420 | WQZM732 | null | LB License Co, LLC | T-Mobile License LLC | null | WT - 600 MHz Band | PEA016 - Seattle, WA | E | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168420 | WQZM733 | null | LB License Co, LLC | T-Mobile License LLC | null | WT - 600 MHz Band | PEA006 - Philadelphia, PA | E | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168420 | WQZM734 | null | LB License Co, LLC | T-Mobile License LLC | null | WT - 600 MHz Band | PEA005 - Baltimore, MD-Washington, DC | E | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM718 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA024 - Saint Louis, MO | A | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM719 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA024 - Saint Louis, MO | B | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM720 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA027 - Salt Lake City, UT | D | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM724 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA004 - San Francisco, CA | D | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM726 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA021 - Tampa, FL | E | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM728 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA037 - Columbus, OH | A | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM729 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA037 - Columbus, OH | B | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM731 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA017 - Minneapolis-St. Paul, MN | E | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM735 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA008 - Dallas, TX | C | null |
| 9/7/2022 12:00:00 AM | AA | 9/2/2022 | 9/6/2022 12:00:00 AM | Pending | 0010168412 | WQZM736 | null | LB License Co, LLC | Nextel West Corp. | null | WT - 600 MHz Band | PEA008 - Dallas, TX | D | null |



Carrier Database

Provides query access to the matching of licensee names with our carrier codes (3 character codes) and recognized carrier names.

The Carrier Database is used when a customer encounters an unfamiliar licensee name and wants to know which carrier uses that name or when an unfamiliar carrier code is displayed in the Spectrum Grid.



Carrier Database

Carrier Database (Total Records : 3889)

Search:

| Code | CommonName | LicenseeLesseeName |
|------|---|---|
| 101 | 101Netlink | 101Netlink |
| 123 | 123.Net | 123 NET |
| 123 | 123.Net | 123.Net, Inc. |
| 1250 | tested | Testwork |
| 2LS | 2 Lightspeed, LP | 2 Lightspeed, LP |
| 360 | 360 Communications | 360 Communications, Inc. |
| 360 | 360 Communications | 360 Acquisition Company, LLC |
| 4IP | 4ip Technology | 4ip Technology |
| 4IP | 4ip Technology | 4ip Technology and Media LLC |
| 4WY | Fourway Computer | Fourway Computer Products, Inc. |
| 4WY | Fourway Computer | Fourway Computer Products, Inc. |
| 5UT | 5G Alliance Utah | 5G Alliance Utah |
| A10 | Cooperative Educational Service Agency 10 | Cooperative Educational Service Agency 10 |
| A97 | Auction 97 Capital | Auction 97 Capital |
| ABC | ABC ENTERTAINMENT SYSTEMS | ABC ENTERTAINMENT SYSTEMS, INC. |
| ABK | Arbuckle Communications | Arbuckle Communications, LLC |
| ABL | AB Spectrum | AB Indiana, LLC |
| ABL | AB Spectrum | AB License Co LLC |
| ABL | AB Spectrum | AB Spectrum LLC |
| ABL | AB Spectrum | AB Spectrum LLC |

Showing 1 of 8 page

1 2 3 4 5 6 7 8



Carrier Queries

Carrier Filters

Selected Fields

No Selection

Selected Fields Values

No Selection

Wild Card Search

Save & Submit

Export

Reset

Note: You need to save each filter to preserve it's effect on the grid. When Save & Submit is applied, number of pages will enlist according to the filtered data.

Saved Filters

| | Filter |
|--------|------------------------|
| Delete | CommonName = 'Verizon' |

Carrier Database (Total Records : 206)

Search:

| Code | CommonName | LicenseeLesseeName |
|------|------------|---|
| VZW | Verizon | Rockford MSA Limited Partnership |
| VZW | Verizon | Pinnacles Cellular, LLC |
| VZW | Verizon | Verizon Wireless Telecom Inc |
| VZW | Verizon | Bell Atlantic Mobile of Massachusetts Corporation, Ltd. d/b/a Verizon Wireles |
| VZW | Verizon | Bell Atlantic Mobile of Rochester, LP |
| VZW | Verizon | Bell Atlantic Mobile Systems of Allentown, Inc. |
| VZW | Verizon | Binghamton MSA Limited Partnership |
| VZW | Verizon | Bismarck MSA Limited Partnership |
| VZW | Verizon | California RSA No. 3 Limited Partnership |
| VZW | Verizon | California RSA No. 4 Limited Partnership |
| VZW | Verizon | Cellco Partnership |
| VZW | Verizon | Cellco Partnership d/b/a Verizon Wireless |
| VZW | Verizon | Cellular Inc. Network Corporation |
| VZW | Verizon | Cellular, Inc. Financial Corporation |
| VZW | Verizon | Charleston-North Charleston MSA Limited Partnership |
| VZW | Verizon | Chicago SMSA Limited Partnership |
| VZW | Verizon | CMA 338 Limited Partnership |
| VZW | Verizon | COLORADO 7 - SAGUACHE LIMITED PARTNERSHIP |
| VZW | Verizon | Colorado RSA No. 3 Limited Partnership |
| VZW | Verizon | Dallas MTA, L.P. |

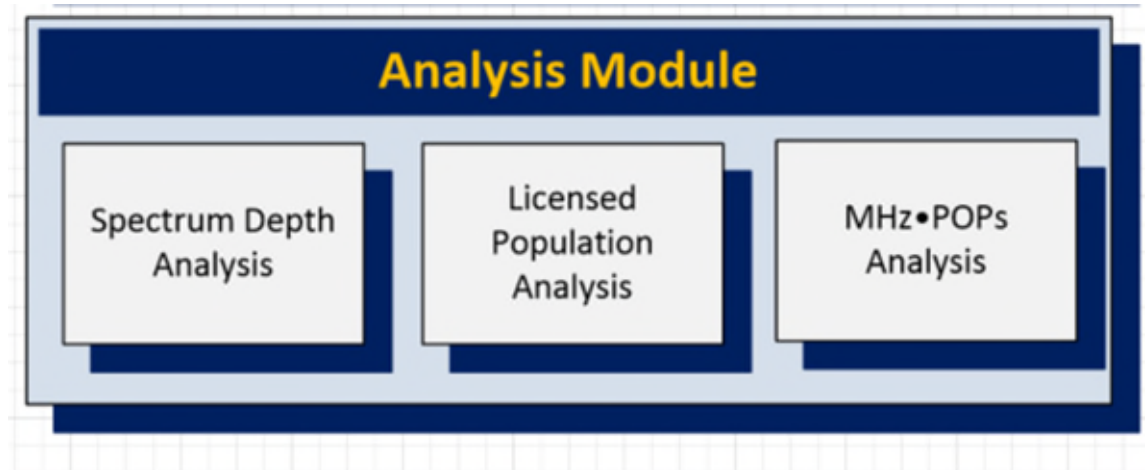
Showing 1 of 1

1

page



Analysis Module



Spectrum Depth

Spectrum Depth Analysis displays the spectrum controlled by up to 8 carriers in an individual market. This spectrum depth is broken down with four different types of analysis; Frequency Band, Band Classification, Channel Block and LTE/NR Band. Bar charts are displayed below both of the frequency band and band classification tables and they can be downloaded.

| Analysis Types |
|---------------------|
| Frequency Band |
| Band Classification |
| Channel Block |
| LTE/NR Band |

| Markets: | Description |
|----------|-----------------------------|
| County | US Counties and Territories |
| CMA | Cellular Market Areas |
| PEA | Partial Economic Areas |
| EA | Economic Areas |
| State | US States and Territories |
| National | National |

| Band Classification | Frequency Band |
|---------------------|----------------|
| Low | 600 MHz |
| Low | 700 MHz |
| Low | Cellular/SMR |
| LwMid | PCS |
| LwMid | AWS 1/2/3/4 |
| UpMid | WCS |
| UpMid | EBS/BRS |
| UpMid | 3.45 GHz |
| UpMid | CBRS |
| UpMid | C-Band |
| Millimeter Wave | 12.2 GHz |
| Millimeter Wave | 24 GHz |
| Millimeter Wave | 28 GHz |
| Millimeter Wave | 28-31 GHz |
| Millimeter Wave | Lower 37 GHz |
| Millimeter Wave | Upper 37 GHz |
| Millimeter Wave | 39 GHz |
| Millimeter Wave | 47 GHz |

| Band Classification | Uplink | Downlink | TDD |
|---------------------|--------|----------|------|
| Low | n12 | n12 | |
| Low | n13 | n13 | |
| Low | n14 | n14 | |
| Low | n26 | n26 | |
| Low | | n29 | |
| Low | n71 | n71 | |
| LwMid | n24 | n24 | |
| LwMid | n25 | n25 | |
| LwMid | n66 | n66 | |
| LwMid | n70 | n70 | |
| UpMid | n30 | n30 | |
| UpMid | | | n41 |
| UpMid | | | n77 |
| Millimeter Wave | | | n257 |
| Millimeter Wave | | | n258 |
| Millimeter Wave | | | n260 |
| Millimeter Wave | | | n261 |
| Millimeter Wave | | | n262 |



Spectrum Depth Frequency Band

Filters

| | | | |
|-----------------|-------------------------|---------------|--------------------|
| Band | Mobile Carrier Spectrum | Analysis Type | Frequency Band |
| Market Type | County | Target Market | Individual |
| Regional Values | WA_King County | Data Type | Future |
| Carrier 1 | ATT - AT&T | Carrier 2 | VZW - Verizon |
| Carrier 3 | TMO - T-Mobile | Carrier 4 | DSH - Dish Network |

[+ More Filters](#)
[Reset Filters](#)

Spectrum Depth Analysis - Mobile - County - WA_King County

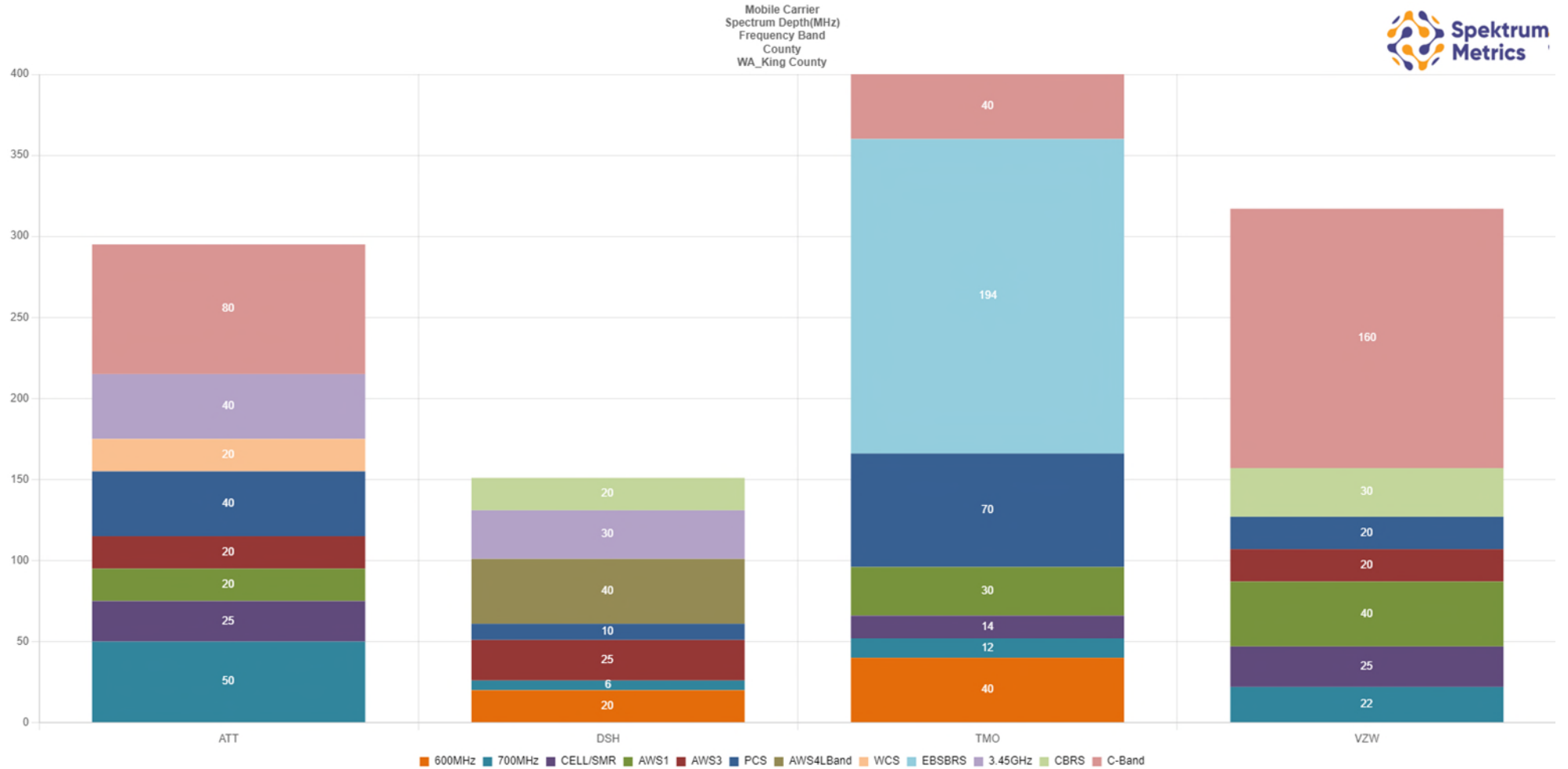
Search:

| CarrierCode | CCType | Total | _600MHz | _700MHz | _Cell/SMR | _AWS1 | _AWS3 | _PCS | _AWS4Band | _WCS | _EBSBRS | 3.45GHz | _CBRS | _C-Band |
|-------------|------------|-------|---------|---------|-----------|-------|-------|------|-----------|------|---------|---------|-------|---------|
| ATT | FDM_Future | 295 | 0 | 50 | 25 | 20 | 20 | 40 | 0 | 20 | 0 | 40 | 0 | 80 |
| DSH | FDM_Future | 151 | 20 | 6 | 0 | 0 | 25 | 10 | 40 | 0 | 0 | 30 | 20 | 0 |
| TMO | FDM_Future | 400 | 40 | 12 | 14 | 30 | 0 | 70 | 0 | 0 | 194 | 0 | 0 | 40 |
| VZW | FDM_Future | 317 | 0 | 22 | 25 | 40 | 20 | 20 | 0 | 0 | 0 | 0 | 30 | 160 |

Showing 1 to 4 of 4 entries



Spectrum Depth Chart Frequency Band



Spectrum Depth Band Classification

Filters

Band: Mobile Carrier Spectrum | Analysis Type: Band Classification

Market Type: County | Target Market: Individual

Regional Values: WA_King County | Data Type: Future

Carrier 1: ATT - AT&T | Carrier 2: VZW - Verizon

Carrier 3: TMO - T-Mobile | Carrier 4: DSH - Dish Network

[+ More Filters](#) [Reset Filters](#)

Spectrum Depth Analysis - Mobile - County - WA_King County

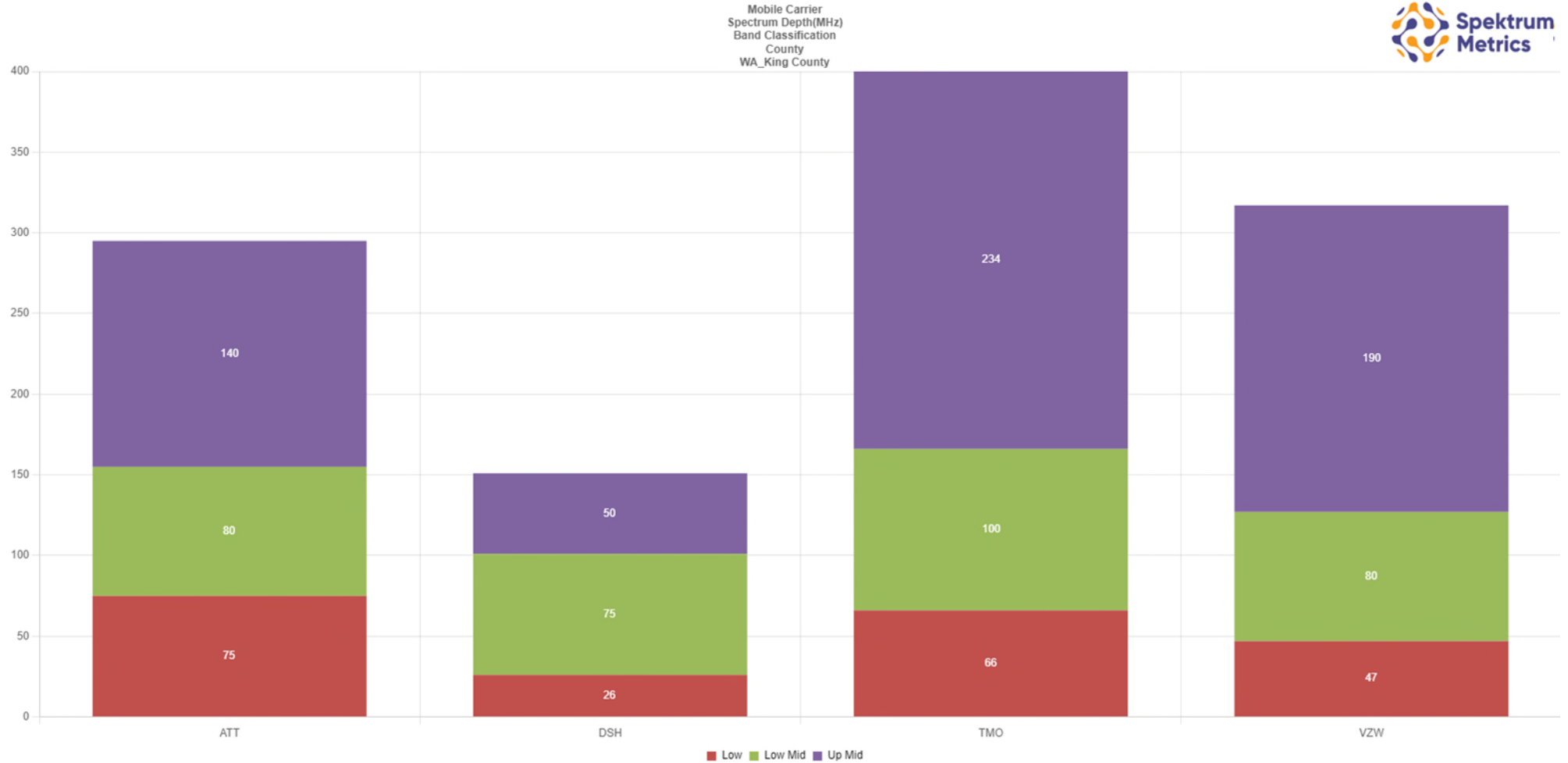
Search:

| CarrierCode | CCType | Total | _Low | _LowMid | _UpMid |
|-------------|------------|-------|------|---------|--------|
| ATT | FDM_Future | 295 | 75 | 80 | 140 |
| DSH | FDM_Future | 151 | 26 | 75 | 50 |
| TMO | FDM_Future | 400 | 66 | 100 | 234 |
| VZW | FDM_Future | 317 | 47 | 80 | 190 |

Showing 1 to 4 of 4 entries



Spectrum Depth Chart Band Classification



Spectrum Depth Channel Block

Filters

| | | | |
|-----------------|-------------------------|---------------|---------------|
| Band | Mobile Carrier Spectrum | Analysis Type | Channel Block |
| Market Type | County | Target Market | Individual |
| Regional Values | WA_King County | Data Type | Future |
| Carrier 1 | ATT - AT&T | | |

[Reset Filters](#)

Spectrum Depth Analysis - Mobile - County - WA_King County

Low **Low Mid** Up Mid
PCS AWS1/3 AWS4

Search:

| CarrierCode | CCType | _PCS_A | _PCS_B | _PCS_C | _PCS_D | _PCS_E | _PCS_F | _PCS_G | _PCS_H |
|-------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|
| ATT | FDM_Future | 30 | 0 | 0 | 10 | 0 | 0 | 0 | 0 |

Showing 1 to 1 of 1 entries



Spectrum Depth NR Band

Filters

| | | | |
|-----------------|-------------------------|---------------|------------|
| Band | Mobile Carrier Spectrum | Analysis Type | LTE Band |
| Market Type | County | Target Market | Individual |
| Regional Values | WA_King County | Data Type | Future |
| Carrier 1 | ATT - AT&T | | |

[Reset Filters](#)

Spectrum Depth Analysis - Mobile - County - WA_King County

Low Low Mid Up Mid
Uplink Downlink

Search:

| CarrierCode | CCType | _n12 | _n13 | _n14 | _n26 | _n71 |
|-------------|------------|------|------|------|------|------|
| ATT | FDM_Future | 12 | 0 | 10 | 12.5 | 0 |

Showing 1 to 1 of 1 entries



Spectrum Depth

All Markets

All Market Spectrum Depth displays the spectrum controlled by up to 8 carriers in every US county. This analysis provides county-wide evaluations for each analysis type: Frequency Band, Band Classification, Channel Block and LTE/NR Band. Regional filters can be utilized to limit the counties being viewed to a specific state or market.

| Analysis Types |
|---------------------|
| Frequency Band |
| Band Classification |
| Channel Block |
| LTE/NR Band |

| Markets: | Description |
|----------|-----------------------------|
| County | US Counties and Territories |
| CMA | Cellular Market Areas |
| PEA | Partial Economic Areas |
| EA | Economic Areas |
| State | US States and Territories |
| National | National |

| Band Classification | Frequency Band |
|---------------------|----------------|
| Low | 600 MHz |
| Low | 700 MHz |
| Low | Cellular/SMR |
| LwMid | PCS |
| LwMid | AWS 1/2/3/4 |
| UpMid | WCS |
| UpMid | EBS/BRS |
| UpMid | 3.45 GHz |
| UpMid | CBRS |
| UpMid | C-Band |
| Millimeter Wave | 12.2 GHz |
| Millimeter Wave | 24 GHz |
| Millimeter Wave | 28 GHz |
| Millimeter Wave | 28-31 GHz |
| Millimeter Wave | Lower 37 GHz |
| Millimeter Wave | Upper 37 GHz |
| Millimeter Wave | 39 GHz |
| Millimeter Wave | 47 GHz |

| Band Classification | Uplink | Downlink | TDD |
|---------------------|--------|----------|------|
| Low | n12 | n12 | |
| Low | n13 | n13 | |
| Low | n14 | n14 | |
| Low | n26 | n26 | |
| Low | | n29 | |
| Low | n71 | n71 | |
| LwMid | n24 | n24 | |
| LwMid | n25 | n25 | |
| LwMid | n66 | n66 | |
| LwMid | n70 | n70 | |
| UpMid | n30 | n30 | |
| UpMid | | | n41 |
| UpMid | | | n77 |
| Millimeter Wave | | | n257 |
| Millimeter Wave | | | n258 |
| Millimeter Wave | | | n260 |
| Millimeter Wave | | | n261 |
| Millimeter Wave | | | n262 |



Spectrum Depth Frequency Band

Spectrum Depth Analysis - Mobile

Search:

| County | CCType | CMA | CMA Name | Total | | | | | | | | 600MHz | | | | | | | | | | | |
|---------------------|------------|-----|------------------------|-------|-----|-----|-----|-----|-----|-----|-----|--------|-----|-----|-----|-----|-----|-----|-----|---|---|---|----|
| | | | | ATT | VZW | TMO | DSH | USC | CSP | STR | FCC | ATT | VZW | TMO | DSH | USC | CSP | STR | FCC | | | | |
| AL_Autauga County | FDM_Future | 139 | Montgomery, AL | 290 | 322 | 368 | 141 | 0 | 0 | 0 | 12 | 40 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| AL_Baldwin County | FDM_Future | 83 | Mobile, AL | 257 | 317 | 388 | 151 | 0 | 20 | 0 | 10 | 40 | 0 | 20 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| AL_Barbours County | FDM_Future | 314 | Alabama 8 - Lee | 265 | 332 | 354 | 111 | 0 | 0 | 0 | 11 | 40 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| AL_Bibb County | FDM_Future | 310 | Alabama 4 - Bibb | 255 | 357 | 388 | 141 | 0 | 0 | 0 | 2 | 40 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| AL_Blount County | FDM_Future | 307 | Alabama 1 - Franklin | 280 | 322 | 341 | 141 | 0 | 0 | 0 | 22 | 40 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| AL_Bullock County | FDM_Future | 314 | Alabama 8 - Lee | 270 | 302 | 378 | 121 | 0 | 0 | 0 | 12 | 40 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| AL_Butler County | FDM_Future | 313 | Alabama 7 - Butler | 325 | 247 | 368 | 121 | 0 | 0 | 0 | 22 | 40 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| AL_Calhoun County | FDM_Future | 249 | Anniston, AL | 305 | 287 | 398 | 171 | 0 | 0 | 0 | 2 | 40 | 0 | 20 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 |
| AL_Chambers County | FDM_Future | 311 | Alabama 5 - Cleburne | 270 | 342 | 359 | 111 | 0 | 0 | 0 | 41 | 40 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 |
| AL_Cherokee County | FDM_Future | 308 | Alabama 2 - Jackson | 285 | 337 | 349 | 131 | 0 | 0 | 0 | 41 | 40 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 |
| AL_Chilton County | FDM_Future | 310 | Alabama 4 - Bibb | 255 | 357 | 388 | 141 | 0 | 0 | 0 | 2 | 40 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| AL_Choctaw County | FDM_Future | 309 | Alabama 3 - Lamar | 260 | 297 | 326 | 131 | 0 | 94 | 0 | 0 | 40 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 50 |
| AL_Clarke County | FDM_Future | 312 | Alabama 6 - Washington | 267 | 317 | 384 | 151 | 0 | 20 | 0 | 0 | 40 | 0 | 20 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| AL_Clay County | FDM_Future | 311 | Alabama 5 - Cleburne | 285 | 307 | 378 | 131 | 0 | 0 | 0 | 22 | 40 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| AL_Cleburne County | FDM_Future | 311 | Alabama 5 - Cleburne | 285 | 327 | 359 | 121 | 0 | 0 | 0 | 41 | 40 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 |
| AL_Coffee County | FDM_Future | 313 | Alabama 7 - Butler | 275 | 297 | 323 | 111 | 0 | 0 | 0 | 21 | 40 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| AL_Colbert County | FDM_Future | 226 | Florence, AL | 285 | 277 | 392 | 141 | 0 | 0 | 0 | 11 | 40 | 0 | 20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| AL_Conecuh County | FDM_Future | 312 | Alabama 6 - Washington | 267 | 317 | 398 | 131 | 0 | 20 | 0 | 0 | 40 | 0 | 20 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| AL_Coosa County | FDM_Future | 311 | Alabama 5 - Cleburne | 255 | 327 | 388 | 141 | 0 | 0 | 0 | 22 | 40 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| AL_Covington County | FDM_Future | 313 | Alabama 7 - Butler | 315 | 267 | 359 | 111 | 0 | 0 | 0 | 21 | 40 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |

Showing 1 of 33 page

1 2 3 4 5 6 7 8 9 10 Next



Spectrum Depth Band Classification

Spectrum Depth Analysis - Mobile

Search:

| FipsCode | County | CCType | CMA | CMA Name | Total | | | | | | | | Low | | | | | | | | |
|----------|---------------------|------------|-----|------------------------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | ATT | VZW | TMO | DSH | USC | CSP | STR | FCC | ATT | VZW | TMO | DSH | USC | CSP | STR | FCC | |
| 01001 | AL_Autauga County | FDM_Future | 139 | Montgomery, AL | 290 | 322 | 368 | 141 | 0 | 0 | 0 | 12 | 50 | 72 | 64 | 16 | 0 | 0 | 0 | 2 | 100 |
| 01003 | AL_Baldwin County | FDM_Future | 83 | Mobile, AL | 257 | 317 | 388 | 151 | 0 | 20 | 0 | 10 | 87 | 47 | 54 | 16 | 0 | 0 | 0 | 0 | 50 |
| 01005 | AL_Barbour County | FDM_Future | 314 | Alabama 8 - Lee | 265 | 332 | 354 | 111 | 0 | 0 | 0 | 11 | 50 | 72 | 65 | 16 | 0 | 0 | 0 | 11 | 75 |
| 01007 | AL_Bibb County | FDM_Future | 310 | Alabama 4 - Bibb | 255 | 357 | 388 | 141 | 0 | 0 | 0 | 2 | 50 | 72 | 74 | 6 | 0 | 0 | 0 | 2 | 65 |
| 01009 | AL_Blount County | FDM_Future | 307 | Alabama 1 - Franklin | 280 | 322 | 341 | 141 | 0 | 0 | 0 | 22 | 75 | 47 | 74 | 6 | 0 | 0 | 0 | 12 | 65 |
| 01011 | AL_Bullock County | FDM_Future | 314 | Alabama 8 - Lee | 270 | 302 | 378 | 121 | 0 | 0 | 0 | 12 | 50 | 72 | 74 | 6 | 0 | 0 | 0 | 2 | 80 |
| 01013 | AL_Butler County | FDM_Future | 313 | Alabama 7 - Butler | 325 | 247 | 368 | 121 | 0 | 0 | 0 | 22 | 75 | 47 | 74 | 6 | 0 | 0 | 0 | 2 | 110 |
| 01015 | AL_Calhoun County | FDM_Future | 249 | Anniston, AL | 305 | 287 | 398 | 171 | 0 | 0 | 0 | 2 | 75 | 47 | 54 | 26 | 0 | 0 | 0 | 2 | 90 |
| 01017 | AL_Chambers County | FDM_Future | 311 | Alabama 5 - Cleburne | 270 | 342 | 359 | 111 | 0 | 0 | 0 | 41 | 50 | 72 | 55 | 16 | 0 | 0 | 0 | 31 | 80 |
| 01019 | AL_Cherokee County | FDM_Future | 308 | Alabama 2 - Jackson | 285 | 337 | 349 | 131 | 0 | 0 | 0 | 41 | 75 | 47 | 55 | 16 | 0 | 0 | 0 | 31 | 70 |
| 01021 | AL_Chilton County | FDM_Future | 310 | Alabama 4 - Bibb | 255 | 357 | 388 | 141 | 0 | 0 | 0 | 2 | 50 | 72 | 74 | 6 | 0 | 0 | 0 | 2 | 65 |
| 01023 | AL_Choctaw County | FDM_Future | 309 | Alabama 3 - Lamar | 260 | 297 | 326 | 131 | 0 | 94 | 0 | 0 | 50 | 47 | 64 | 6 | 0 | 12 | 0 | 0 | 70 |
| 01025 | AL_Clarke County | FDM_Future | 312 | Alabama 6 - Washington | 267 | 317 | 384 | 151 | 0 | 20 | 0 | 0 | 87 | 47 | 40 | 16 | 0 | 0 | 0 | 0 | 50 |
| 01027 | AL_Clay County | FDM_Future | 311 | Alabama 5 - Cleburne | 285 | 307 | 378 | 131 | 0 | 0 | 0 | 22 | 75 | 47 | 64 | 16 | 0 | 0 | 0 | 2 | 70 |
| 01029 | AL_Cleburne County | FDM_Future | 311 | Alabama 5 - Cleburne | 285 | 327 | 359 | 121 | 0 | 0 | 0 | 41 | 75 | 47 | 55 | 16 | 0 | 0 | 0 | 31 | 70 |
| 01031 | AL_Coffee County | FDM_Future | 313 | Alabama 7 - Butler | 275 | 297 | 323 | 111 | 0 | 0 | 0 | 21 | 75 | 47 | 65 | 16 | 0 | 0 | 0 | 11 | 60 |
| 01033 | AL_Colbert County | FDM_Future | 226 | Florence, AL | 285 | 277 | 392 | 141 | 0 | 0 | 0 | 11 | 75 | 47 | 65 | 16 | 0 | 0 | 0 | 1 | 70 |
| 01035 | AL_Conecuh County | FDM_Future | 312 | Alabama 6 - Washington | 267 | 317 | 398 | 131 | 0 | 20 | 0 | 0 | 87 | 47 | 54 | 16 | 0 | 0 | 0 | 0 | 50 |
| 01037 | AL_Cosa County | FDM_Future | 311 | Alabama 5 - Cleburne | 255 | 327 | 388 | 141 | 0 | 0 | 0 | 22 | 50 | 72 | 64 | 16 | 0 | 0 | 0 | 2 | 65 |
| 01039 | AL_Covington County | FDM_Future | 313 | Alabama 7 - Butler | 315 | 267 | 359 | 111 | 0 | 0 | 0 | 21 | 75 | 47 | 65 | 16 | 0 | 0 | 0 | 11 | 100 |

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Spectrum Depth Channel Block

Spectrum Depth Analysis - Mobile

Low
Low Mid
Up Mid

600MHz
700MHz
Cell/SMR

Search:

| StateCounty | CarrierCode | CCType | CMA | CMA Name | Total | _600_A | _600_B | _600_C | _600_D | _600_E | _600_F | _600_G |
|---------------------------------|-------------|------------|-----|-------------------------|-------|--------|--------|--------|--------|--------|--------|--------|
| AK_Aleutians East Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Aleutians West Census Area | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Anchorage Municipality | ATT | FDM_Future | 187 | Anchorage, AK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Bethel Census Area | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Bristol Bay Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Denali Borough | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Dillingham Census Area | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Fairbanks North Star Borough | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Haines Borough | ATT | FDM_Future | 317 | Alaska 3 - Haines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Hoonah-Angoon Census Area | ATT | FDM_Future | 317 | Alaska 3 - Haines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Juneau City and Borough | ATT | FDM_Future | 317 | Alaska 3 - Haines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Kenai Peninsula Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Ketchikan Gateway Borough | ATT | FDM_Future | 317 | Alaska 3 - Haines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Kodiak Island Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Kusilvak Census Area | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Lake and Peninsula Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Matanuska-Susitna Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Nome Census Area | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_North Slope Borough | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Northwest Arctic Borough | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AK_Petersburg Census Area | ATT | FDM_Future | 317 | Alaska 3 - Haines | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

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Spectrum Depth NR Band

Spectrum Depth Analysis - Mobile

Low

Low Mid

Up Mid

Uplink

Downlink

Search:

| StateCounty | CarrierCode | CCType | CMA | CMA Name | Total | Uplink | | | | |
|---------------------------------|-------------|------------|-----|-------------------------|-------|--------|------|------|------|------|
| | | | | | | _n12 | _n13 | _n14 | _n26 | _n71 |
| AK_Aleutians East Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 22 | 12 | 0 | 10 | 0 | 0 |
| AK_Aleutians West Census Area | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 10 | 0 | 0 | 10 | 0 | 0 |
| AK_Anchorage Municipality | ATT | FDM_Future | 187 | Anchorage, AK | 35 | 12 | 0 | 10 | 13 | 0 |
| AK_Bethel Census Area | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 22 | 12 | 0 | 10 | 0 | 0 |
| AK_Bristol Bay Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 35 | 12 | 0 | 10 | 13 | 0 |
| AK_Denali Borough | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 29 | 6 | 0 | 10 | 13 | 0 |
| AK_Dillingham Census Area | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 23 | 0 | 0 | 10 | 13 | 0 |
| AK_Fairbanks North Star Borough | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 29 | 6 | 0 | 10 | 13 | 0 |
| AK_Haines Borough | ATT | FDM_Future | 317 | Alaska 3 - Haines | 29 | 6 | 0 | 10 | 13 | 0 |
| AK_Hoonah-Angoon Census Area | ATT | FDM_Future | 317 | Alaska 3 - Haines | 29 | 6 | 0 | 10 | 13 | 0 |
| AK_Juneau City and Borough | ATT | FDM_Future | 317 | Alaska 3 - Haines | 29 | 6 | 0 | 10 | 13 | 0 |
| AK_Kenai Peninsula Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 35 | 12 | 0 | 10 | 13 | 0 |
| AK_Ketchikan Gateway Borough | ATT | FDM_Future | 317 | Alaska 3 - Haines | 29 | 6 | 0 | 10 | 13 | 0 |
| AK_Kodiak Island Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 35 | 12 | 0 | 10 | 13 | 0 |
| AK_Kusilvak Census Area | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 16 | 6 | 0 | 10 | 0 | 0 |
| AK_Lake and Peninsula Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 35 | 12 | 0 | 10 | 13 | 0 |
| AK_Matanuska-Susitna Borough | ATT | FDM_Future | 316 | Alaska 2 - Bethel | 35 | 12 | 0 | 10 | 13 | 0 |
| AK_Nome Census Area | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 29 | 6 | 0 | 10 | 13 | 0 |
| AK_North Slope Borough | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 10 | 0 | 0 | 10 | 0 | 0 |
| AK_Northwest Arctic Borough | ATT | FDM_Future | 315 | Alaska 1 - Wade Hampton | 10 | 0 | 0 | 10 | 0 | 0 |
| AK_Petersburg Census Area | ATT | FDM_Future | 317 | Alaska 3 - Haines | 29 | 6 | 0 | 10 | 13 | 0 |

Showing 1 of 33 page

1 2 3 4 5 6 7 8 9 10 Next



Licensed Population

License Population Analysis displays the population covered by a carrier's spectrum licenses. This analysis can be performed for an individual county or for all counties. The results can also be summarized at a National Level. Licensed Population details can be viewed by channel block, frequency band, or band classification.

| Analysis Types |
|---------------------|
| Channel Block |
| Frequency Band |
| Band Classification |

| Frequency Band | Band Classification |
|----------------|---------------------|
| 600 MHz | Low |
| 700 MHz | Low |
| Cellular/SMR | Low |
| PCS | LwMid |
| AWS 1/2/3/4 | LwMid |
| WCS | UpMid |
| EBS/BRS | UpMid |
| 3.45 GHz | UpMid |
| CBRS | UpMid |
| C-Band | UpMid |
| 12.2 GHz | Millimeter Wave |
| 24 GHz | Millimeter Wave |
| 28 GHz | Millimeter Wave |
| 28-31 GHz | Millimeter Wave |
| Lower 37 GHz | Millimeter Wave |
| Upper 37 GHz | Millimeter Wave |
| 39 GHz | Millimeter Wave |
| 47 GHz | Millimeter Wave |



Licensed Population Channel

Licensed Population Analysis - Mobile - County - WA_King County

Low Low Mid Up Mid

600MHz 700MHz Cell/SMR

Search:

| | | 600MHz | | | | | | | | |
|----------------|-------------|------------|---|-----------|-----------|-----------|-----------|---|---|-----------|
| State/County | CarrierCode | CCType | A | B | C | D | E | F | G | Total |
| WA_King County | TMO | FDM_Future | 0 | 1,931,249 | 1,931,249 | 1,931,249 | 1,931,249 | 0 | 0 | 1,931,249 |

Licensed Population Analysis - Mobile - National

Low Low Mid Up Mid

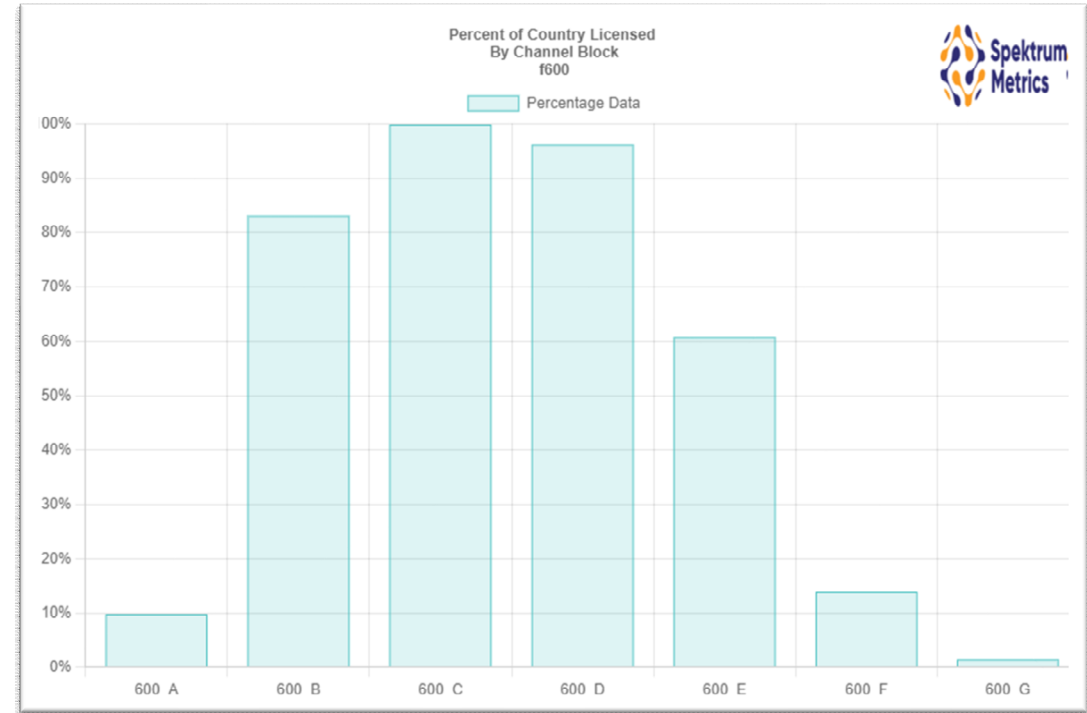
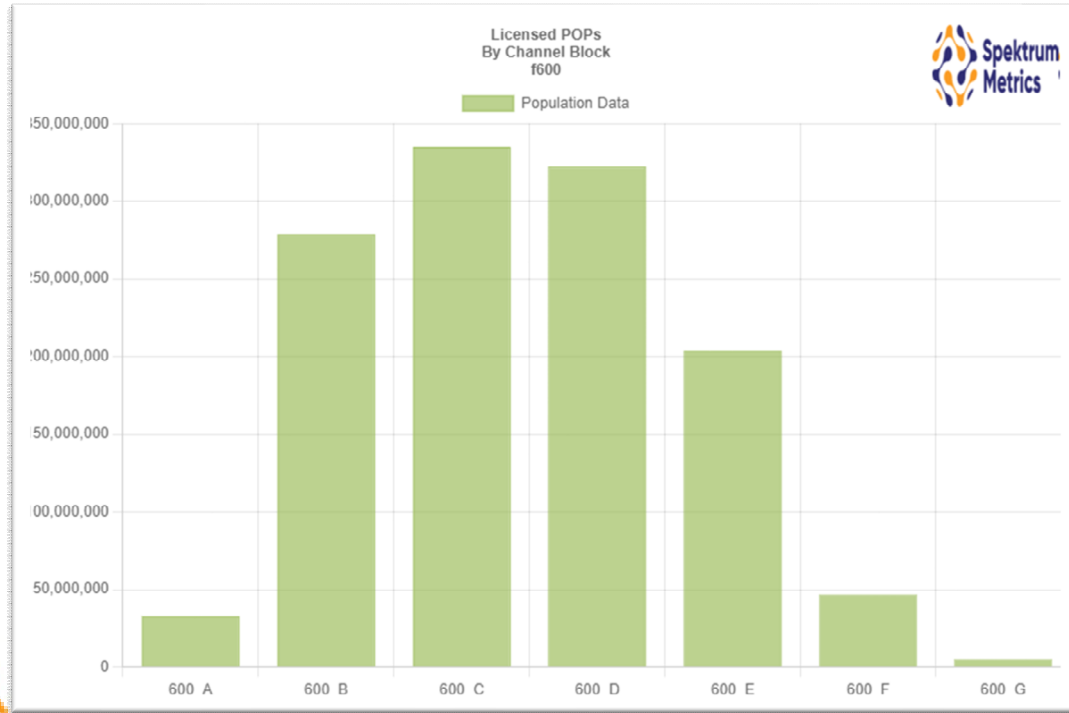
600MHz 700MHz Cell/SMR

Search:

| | | 600MHz | | | | | | |
|-------------------|------------|-------------|-------------|-------------|-------------|------------|-----------|--|
| | A | B | C | D | E | F | G | |
| % of Country | 9.88% | 83.14% | 99.85% | 96.4% | 65.8% | 17.08% | 1.76% | |
| TMO Licensed POPs | 30,877,005 | 259,933,878 | 312,207,924 | 301,413,382 | 205,746,928 | 53,399,401 | 5,504,948 | |



Licensed Population Charts Channel



Licensed Population Frequency Band

Licensed Population Analysis - Mobile - County - WA_King County

Low Low Mid Up Mid

Search:

| StateCounty | CarrierCode | CCType | 600MHz | 700MHz | Cellular/SMR |
|----------------|-------------|------------|-----------|-----------|--------------|
| WA_King County | TMO | FDM_Future | 1,931,249 | 1,931,249 | 1,931,249 |

Licensed Population Analysis - Mobile - National

Low Low Mid Up Mid

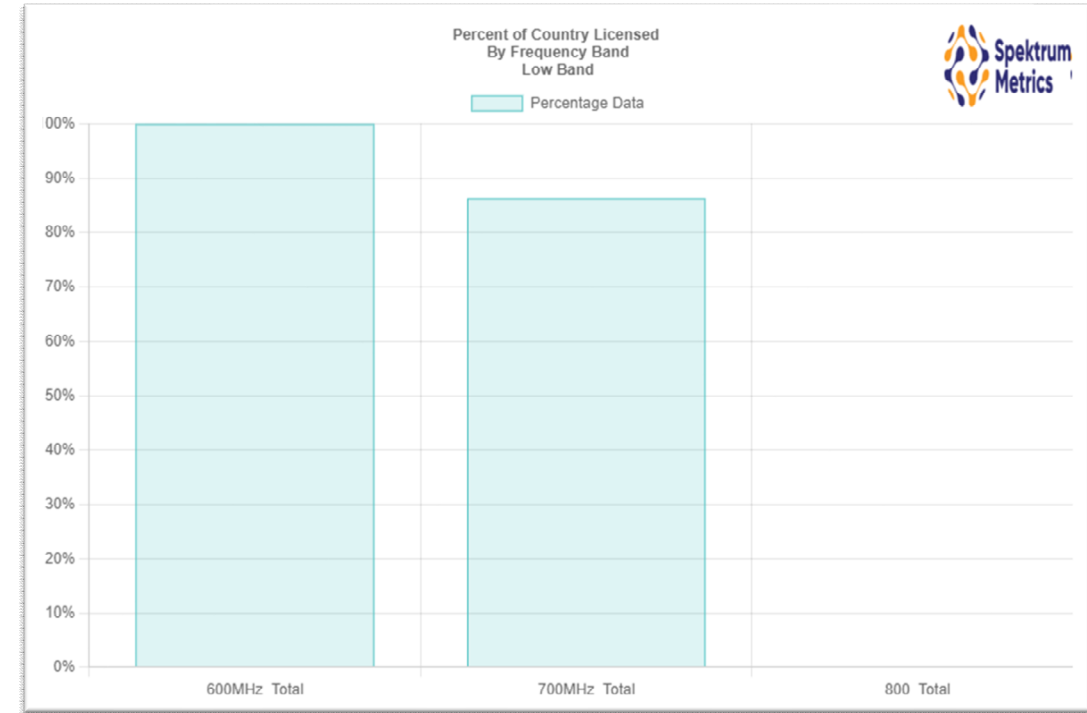
Search:

| | 600_Total | 700_Total | 800_Total | Low Band Total |
|-------------------|-------------|-------------|-------------|----------------|
| % of Country | 100% | 85.95% | 97.3% | 99.86% |
| TMO Licensed POPs | 312,663,277 | 268,740,442 | 304,206,186 | 312,230,088 |



Licensed Population Charts

Frequency Band



Licensed Population Band Classification

Licensed Population Analysis - Mobile - County - WA_King County

Search:

| StateCounty | CarrierCode | CCType | Low Band Total | Low Mid Band Total | Up Mid Band Total | Grand Total |
|----------------|-------------|------------|----------------|--------------------|-------------------|-------------|
| WA_King County | TMO | FDM_Future | 1,931,249 | 1,931,249 | 1,931,249 | 1,931,249 |

Licensed Population Analysis - Mobile - National

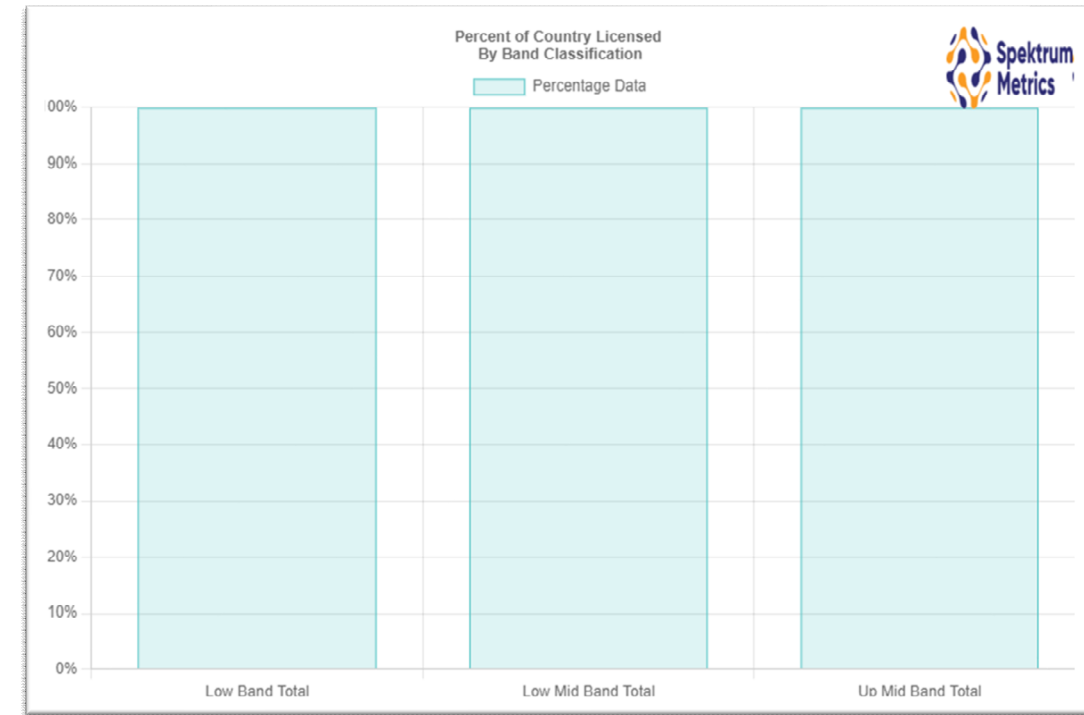
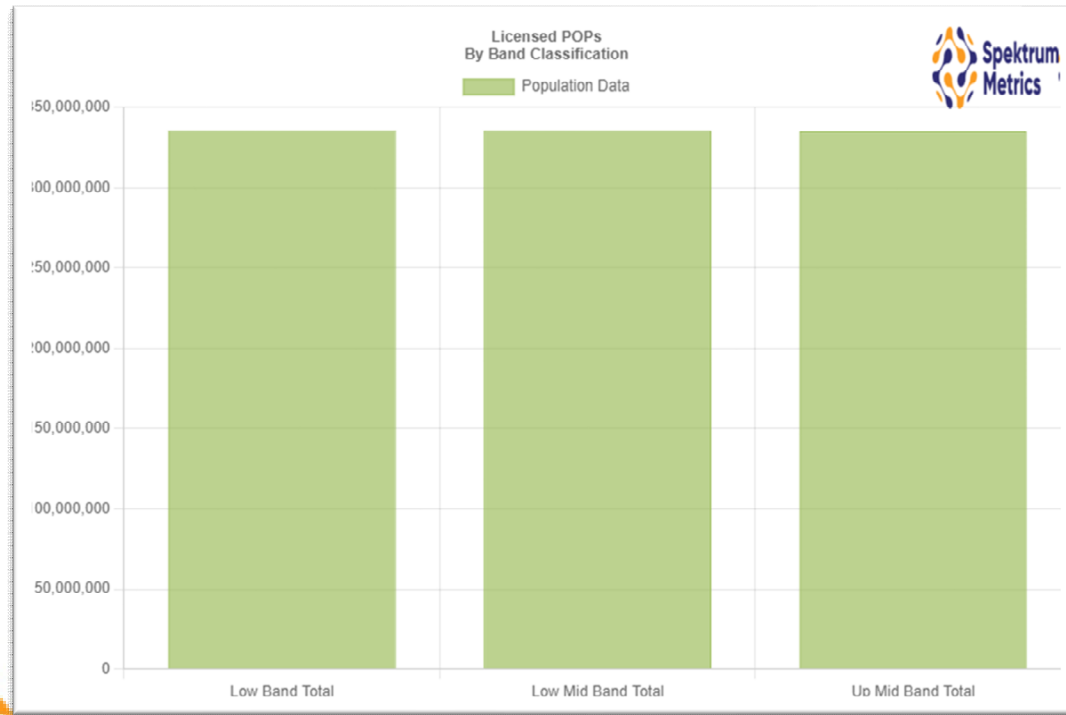
Search:

| | Low Band Total | Low Mid Band Total | Up Mid Band Total | Grand Total |
|-------------------|----------------|--------------------|-------------------|-------------|
| % of Country | 99.86% | 99.73% | 99.63% | 99.86% |
| TMO Licensed POPs | 312,230,088 | 311,828,278 | 311,519,014 | 312,230,088 |



Licensed Population Charts

Band Classification



MHz•POPs Analysis

MHz•POPs Analysis displays the product of the bandwidth of a carrier's spectrum with population covered by that spectrum. MHz•POPs is a key indicator for the value of the business opportunity for a market. The MHz•POPs Analysis can be performed for an individual county or for all counties. The results can also be summarized at a National Level. MHz•POPs details can be viewed by frequency band, or band classification.

| Analysis Types |
|---------------------|
| Channel Block |
| Frequency Band |
| Band Classification |

| Frequency Band | Band Classification |
|----------------|---------------------|
| 600 MHz | Low |
| 700 MHz | Low |
| Cellular/SMR | Low |
| PCS | LwMid |
| AWS 1/2/3/4 | LwMid |
| WCS | UpMid |
| EBS/BRS | UpMid |
| 3.45 GHz | UpMid |
| CBRS | UpMid |
| C-Band | UpMid |
| 12.2 GHz | Millimeter Wave |
| 24 GHz | Millimeter Wave |
| 28 GHz | Millimeter Wave |
| 28-31 GHz | Millimeter Wave |
| Lower 37 GHz | Millimeter Wave |
| Upper 37 GHz | Millimeter Wave |
| 39 GHz | Millimeter Wave |
| 47 GHz | Millimeter Wave |



MHz•POPs (County) Band Classification

MHz POPs Analysis - Mobile

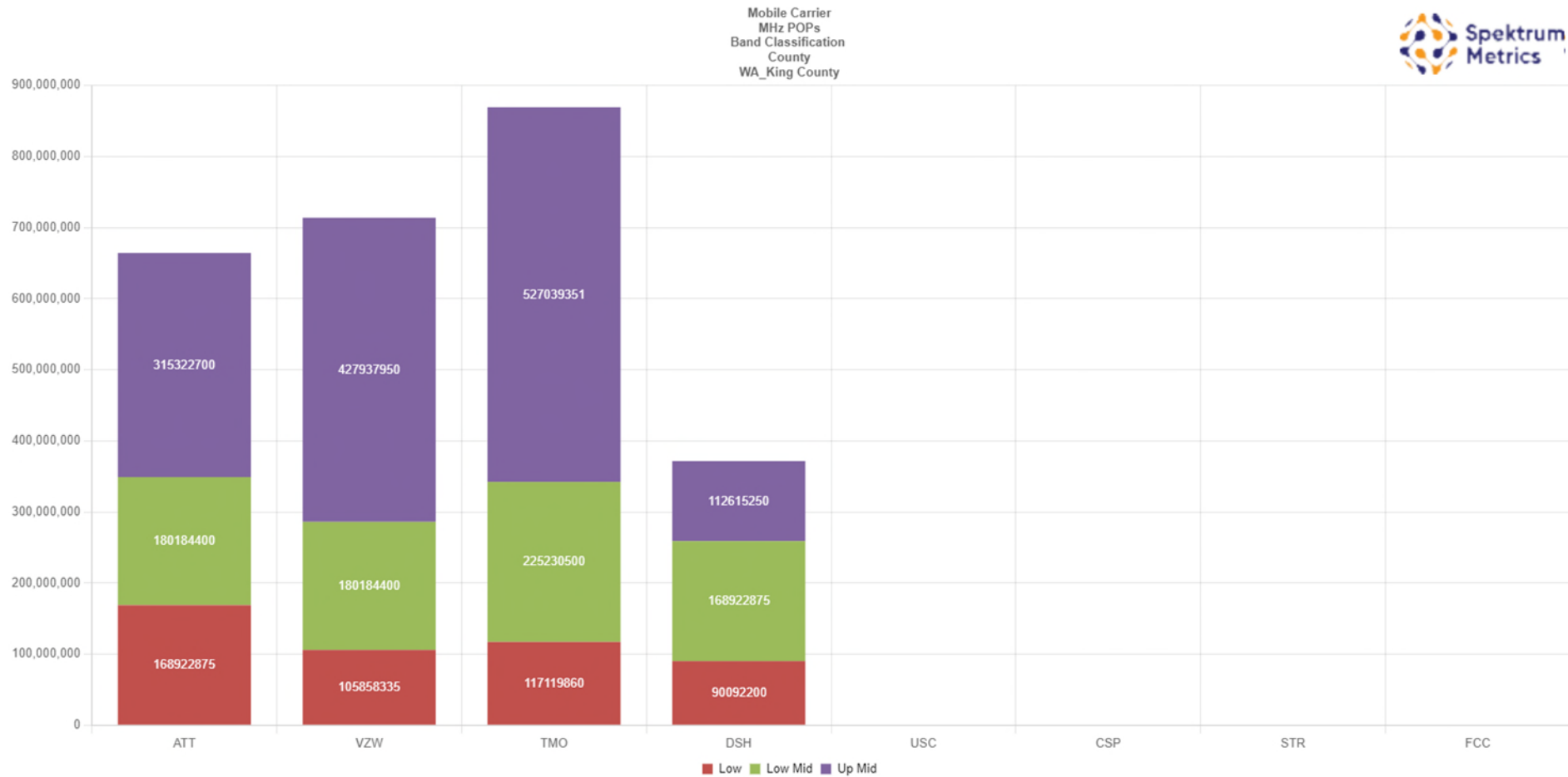
Search:

| State County | CCType | Low | | | | | | | | Low Mid | | | | | | | | Up Mid | | | |
|----------------|------------|-------------|-------------|-------------|------------|-----|-----|-----|-----|-------------|-------------|-------------|-------------|-----|-----|-----|-----|-------------|-------------|-------------|-------------|
| | | ATT | VZW | TMO | DSH | USC | CSP | STR | FCC | ATT | VZW | TMO | DSH | USC | CSP | STR | FCC | ATT | VZW | TMO | DSH |
| WA_King County | FDM_Future | 168,922,875 | 105,858,335 | 117,119,860 | 90,092,200 | 0 | 0 | 0 | 0 | 180,184,400 | 180,184,400 | 225,230,500 | 168,922,875 | 0 | 0 | 0 | 0 | 315,322,700 | 427,937,950 | 527,039,351 | 112,615,250 |



MHz•POPs Charts (County)

Band Classification



MHz•POPs (National) Band Classification

MHz POPs Analysis - Mobile

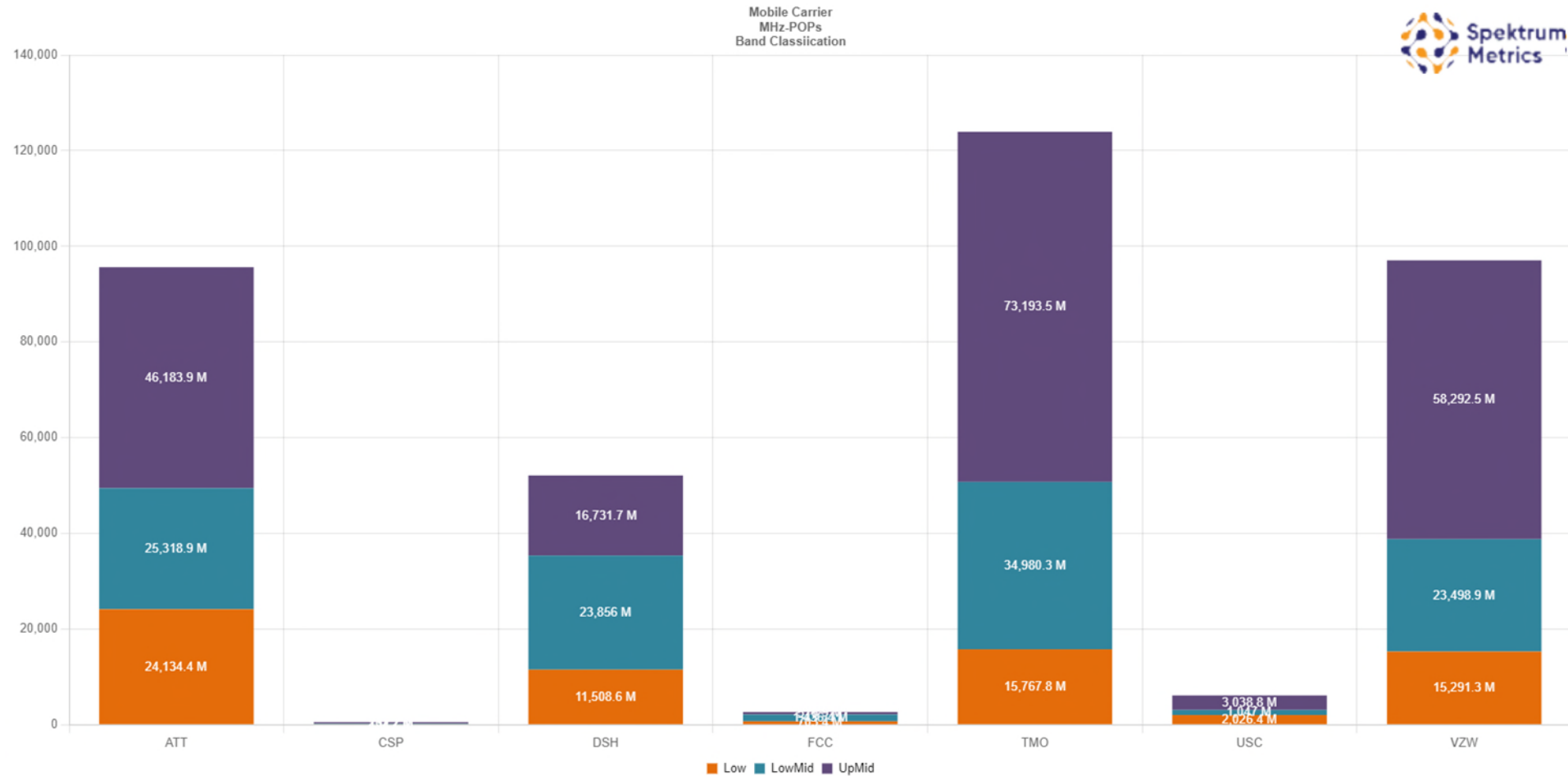
Search:

| CarrierCode | Low | LowMid | UpMid | Total |
|-------------|----------------|----------------|----------------|-----------------|
| ATT | 24,134,365,598 | 25,318,910,112 | 46,183,915,260 | 95,637,190,970 |
| CSP | 134,687,036 | 132,689,660 | 267,156,230 | 534,532,926 |
| DSH | 11,508,602,072 | 23,856,017,915 | 16,731,742,250 | 52,096,362,237 |
| FCC | 703,414,136 | 1,436,355,875 | 516,906,070 | 2,656,676,081 |
| TMO | 15,767,796,601 | 34,980,255,634 | 73,193,500,332 | 123,941,552,567 |
| USC | 2,026,448,390 | 1,046,965,620 | 3,038,837,972 | 6,112,251,982 |
| VZW | 15,291,326,845 | 23,498,943,692 | 58,292,479,125 | 97,082,749,662 |



MHz•POPs Charts (National)

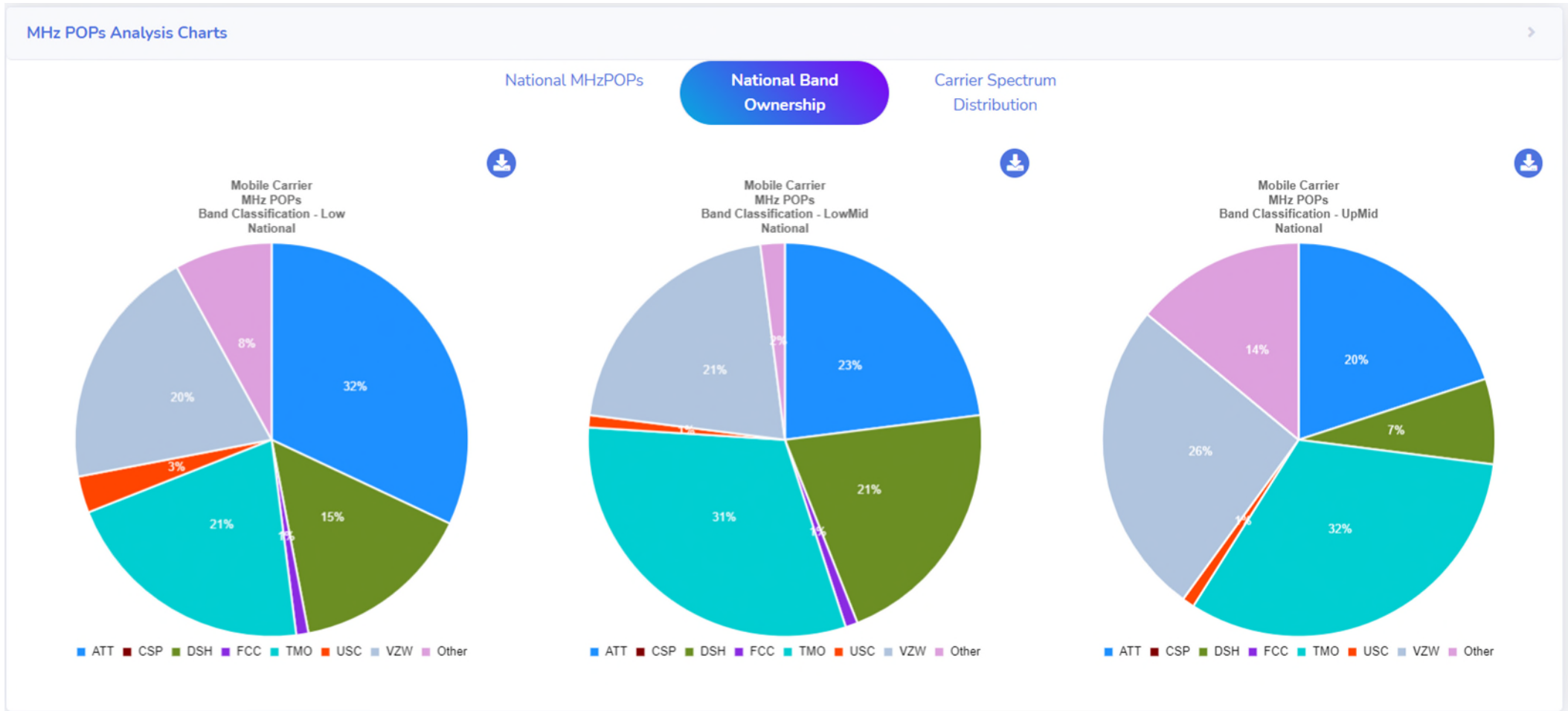
Band Classification



National MHz•POPs Chart

MHz•POPs Charts (National)

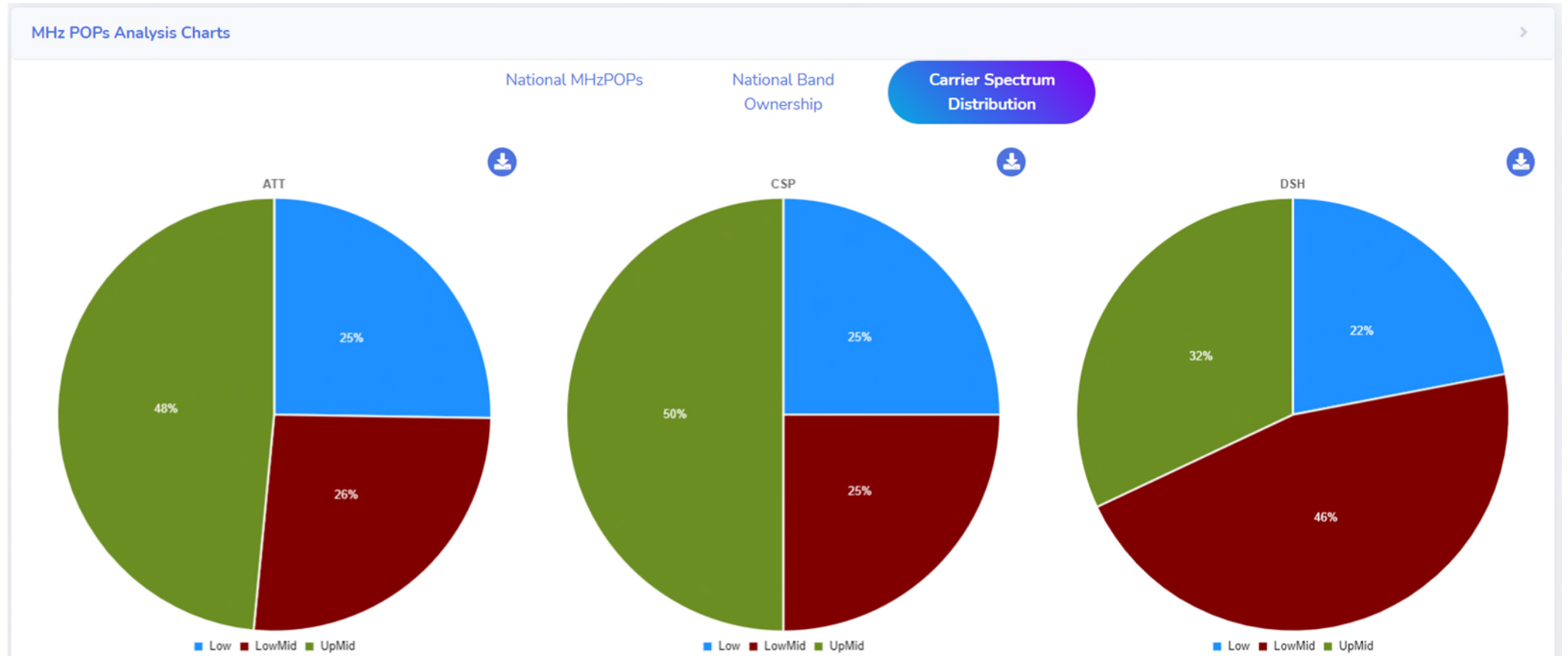
Band Classification



National Band Ownership Charts



MHz•POPs Charts (National) Band Classification



Carrier Spectrum Distribution Charts



MHz•POPs (County) Frequency Band

MHz POPs Analysis - Mobile

Low
Low Mid
Up Mid

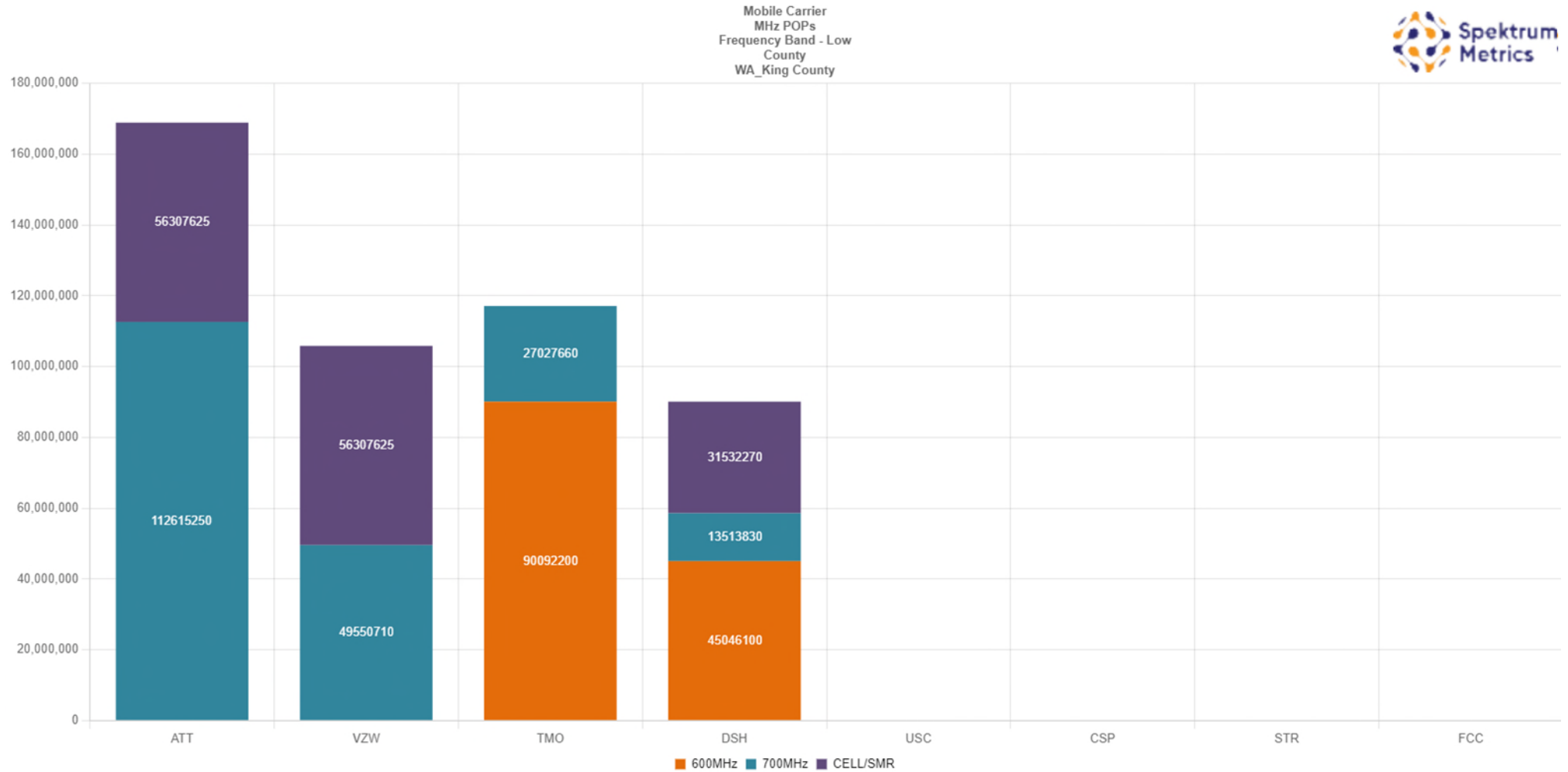
Search:

| State County | CCType | 600Mhz | | | | | | | | 700MHz | | | | | | | | Cell | | | |
|----------------|------------|--------|-----|------------|------------|-----|-----|-----|-----|-------------|------------|------------|------------|-----|-----|-----|-----|------------|------------|-----|-----------|
| | | ATT | VZW | TMO | DSH | USC | CSP | STR | FCC | ATT | VZW | TMO | DSH | USC | CSP | STR | FCC | ATT | VZW | TMO | DSH |
| WA_King County | FDM_Future | 0 | 0 | 90,092,200 | 45,046,100 | 0 | 0 | 0 | 0 | 112,615,250 | 49,550,710 | 27,027,660 | 13,513,830 | 0 | 0 | 0 | 0 | 56,307,625 | 56,307,625 | 0 | 31,532,27 |

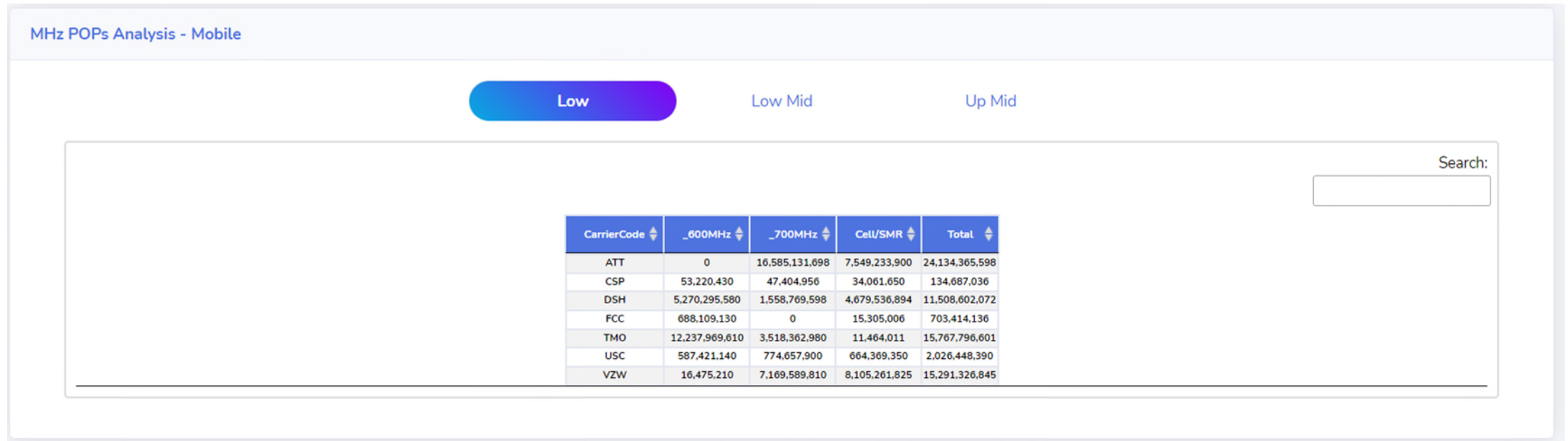


MHz•POPs Charts (County)

Frequency Band

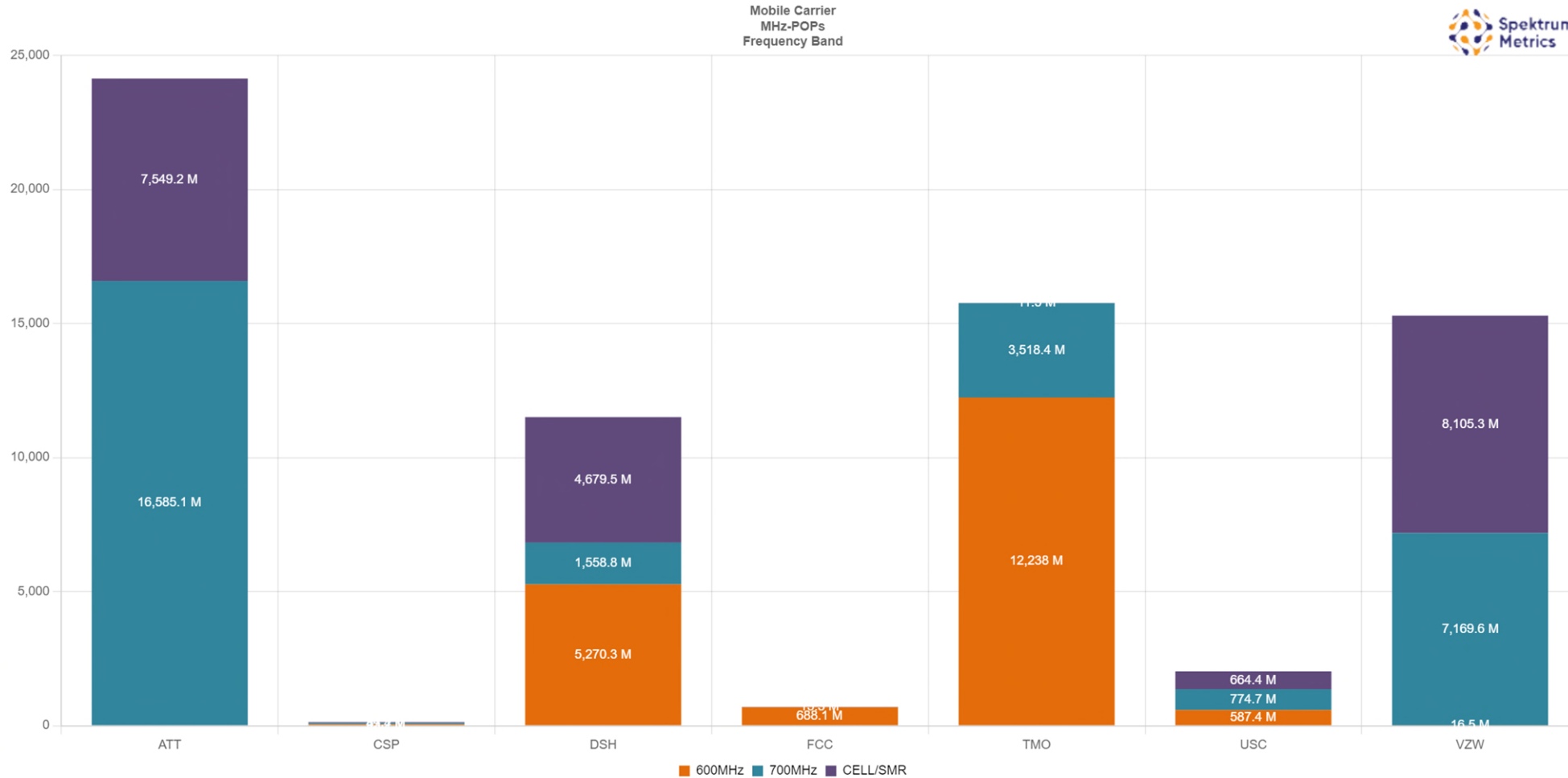


MHz•POPs (National) Frequency Band



MHz•POPs Charts (County)

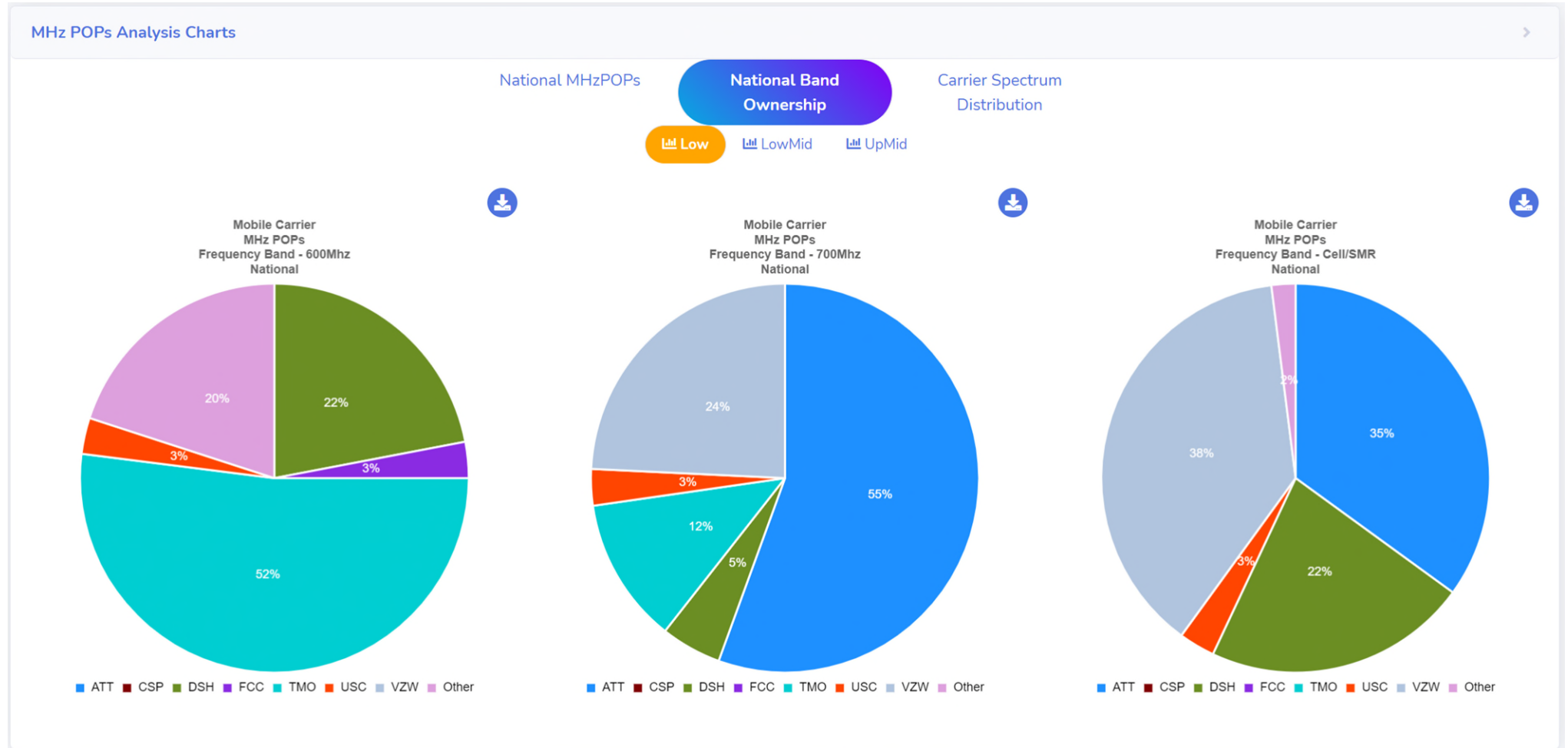
Frequency Band



National MHz•POPs Chart

MHz•POPs Charts (County)

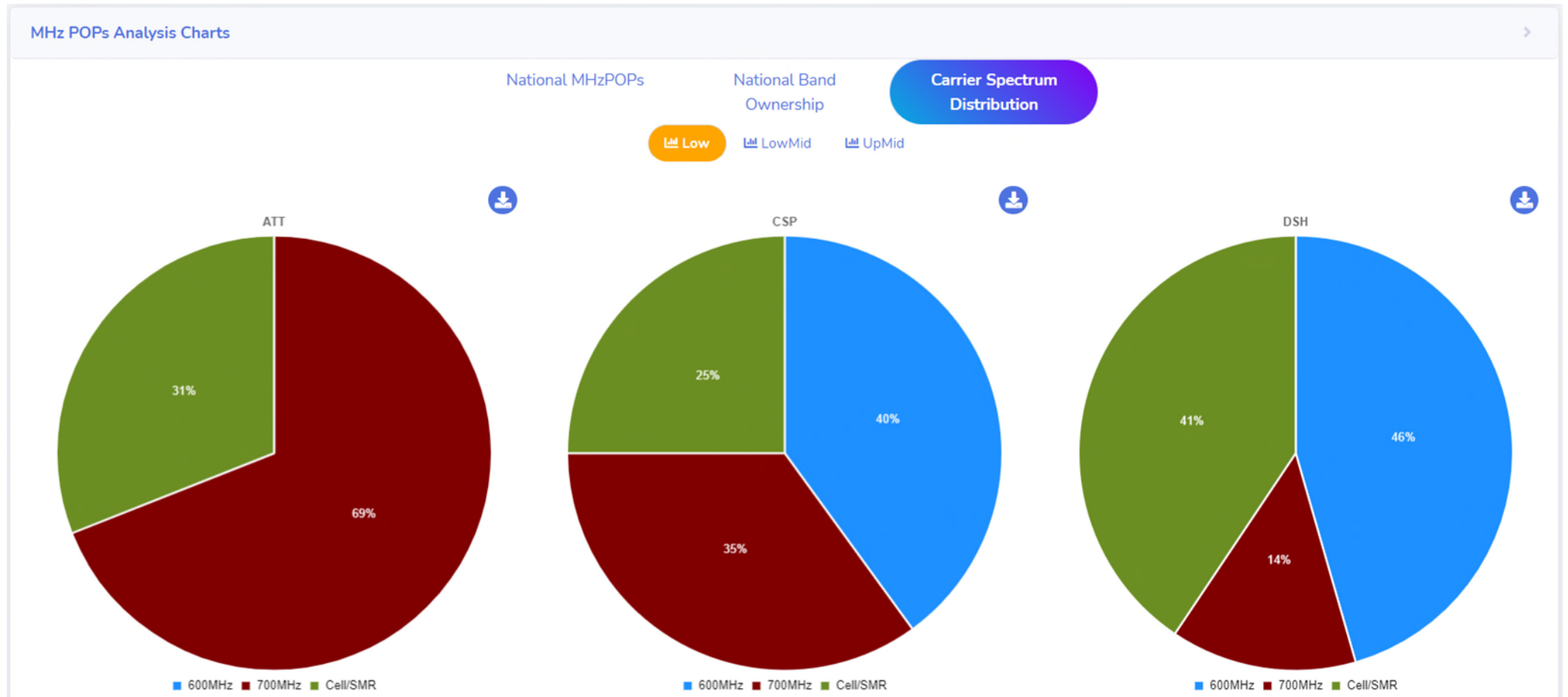
Frequency Band



National Band Ownership Charts



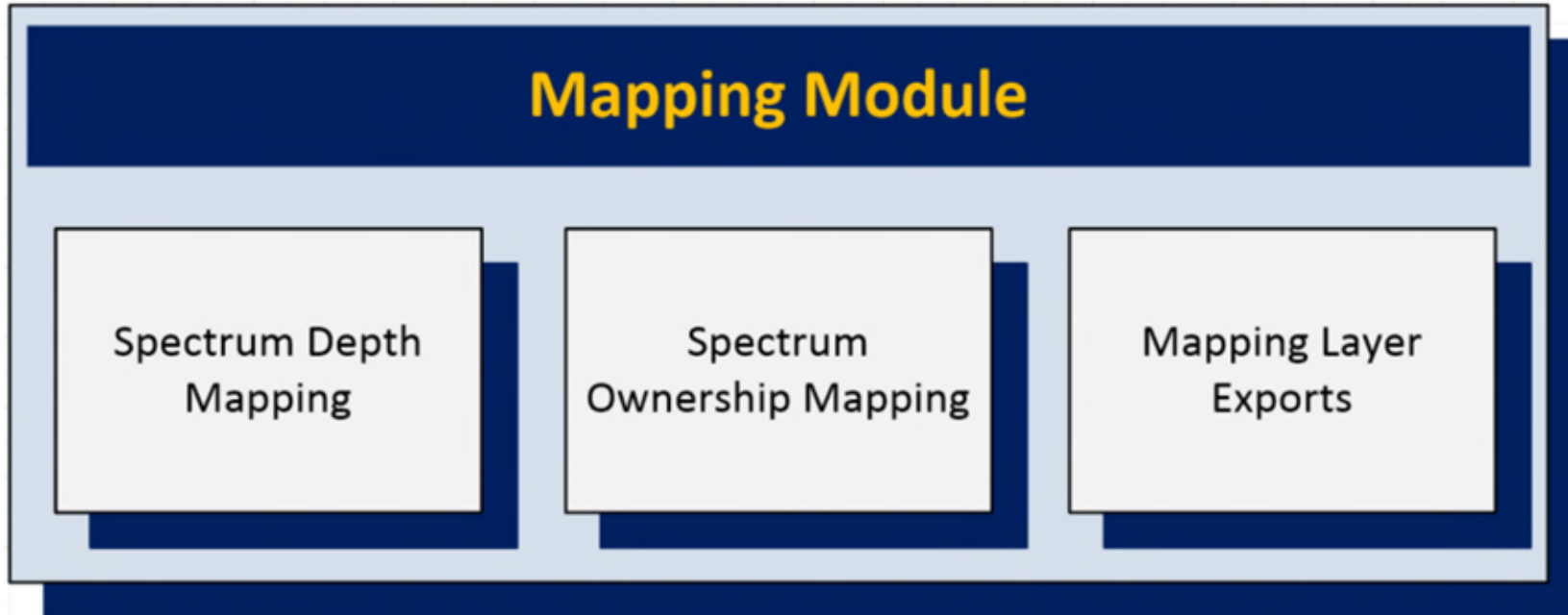
MHz•POPs Charts (County) Frequency Band



Carrier Spectrum Distribution Charts



Mapping Module



Spectrum Depth Mapping

Spectrum Depth Mapping displays the spectrum controlled by a carrier geographically. Spectrum Depth can be shown for counties, CMA market, and PEA markets. In each of these geographic areas, spectrum depth can be detailed by Frequency Band, Band Classification, Channel Block and LTE/NR Band. Each of the displayed maps can be exported as a .jpg image or .kml file.

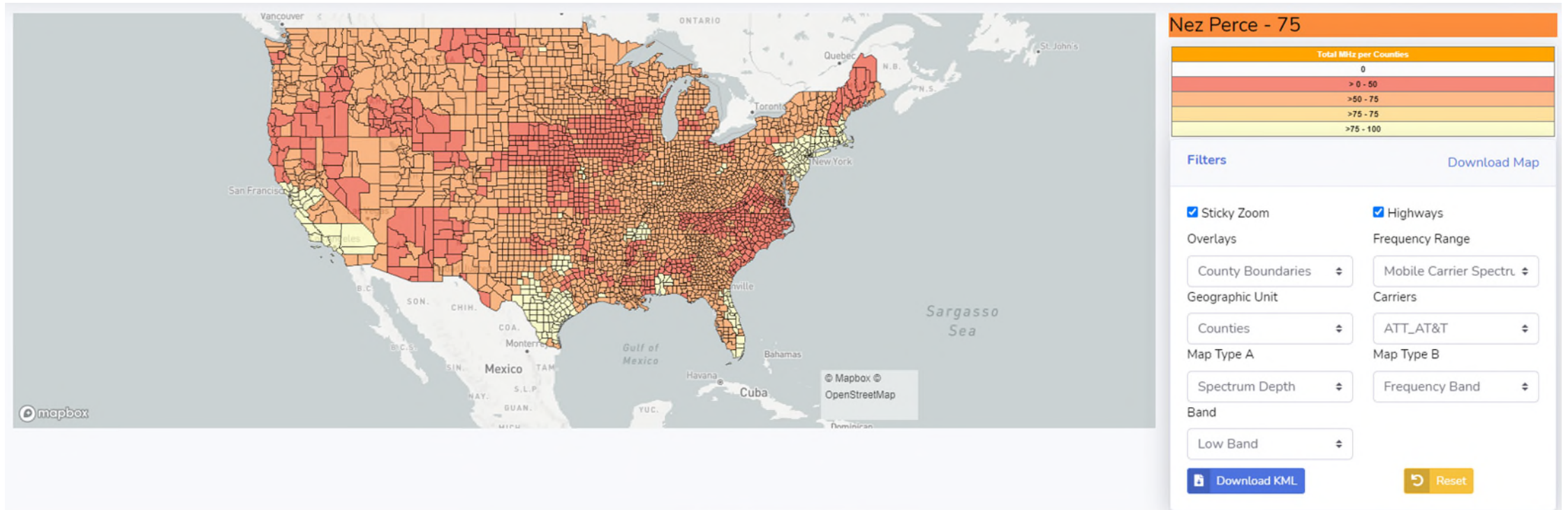
| Geographic Markets | | Mobile Carrier Mapping Categories | Mobile Carrier Mapping Categories | Millimeter Wave Mapping Categories | Millimeter Wave Mapping Categories |
|--------------------|-----------------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|
| Markets: | Description | Frequency Band | NR Band | Frequency Band | NR Band |
| County | US Counties and Territories | Total | n12 | Total | n257 |
| CMA | Cellular Market Areas | Low | n13 | 12.2 GHz | n258 |
| PEA | Partial Economic Areas | LwMid | n14 | 24 GHz | n260 |
| | | UpMid | n26 | 28 GHz | n261 |
| | | 600 MHz | n29 | 28-31 GHz | n262 |
| | | 700 MHz | n71 | Lower 37 GHz | |
| | | Cellular/SMR | n24 | Upper 37 GHz | |
| | | PCS | n25 | 39 GHz | |
| | | AWS 1/2/3/4 | n66 | 47 GHz | |
| | | WCS | n70 | | |
| | | EBS/BRS | n30 | | |
| | | 3.45 GHz | n41 | | |
| | | CBRS | n77 | | |
| | | C-Band | | | |

| Analysis Types |
|---------------------|
| Frequency Band |
| Band Classification |
| Channel Block |
| LTE/NR Band |



Spectrum Depth Mapping allows users to visualize areas where carriers have both strengths and weaknesses in their spectrum portfolio. Counties that stand out can be selected and specific spectrum depth values in specific bands are easily determined.

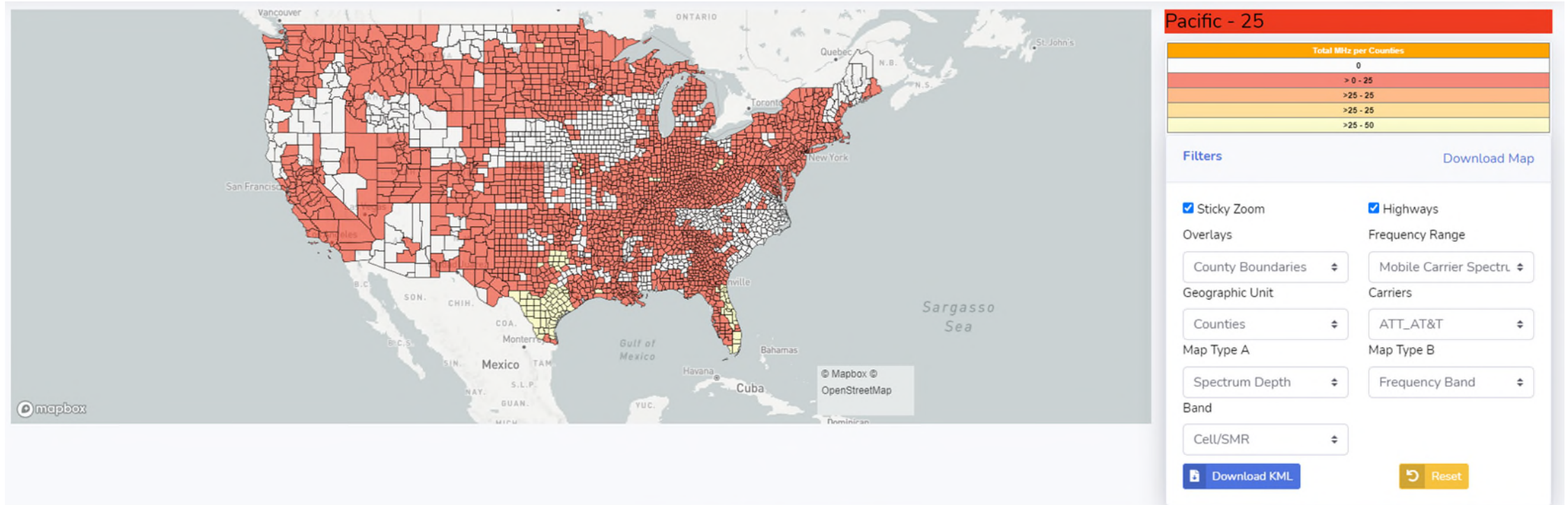
Spectrum Depth Mapping Band Classification



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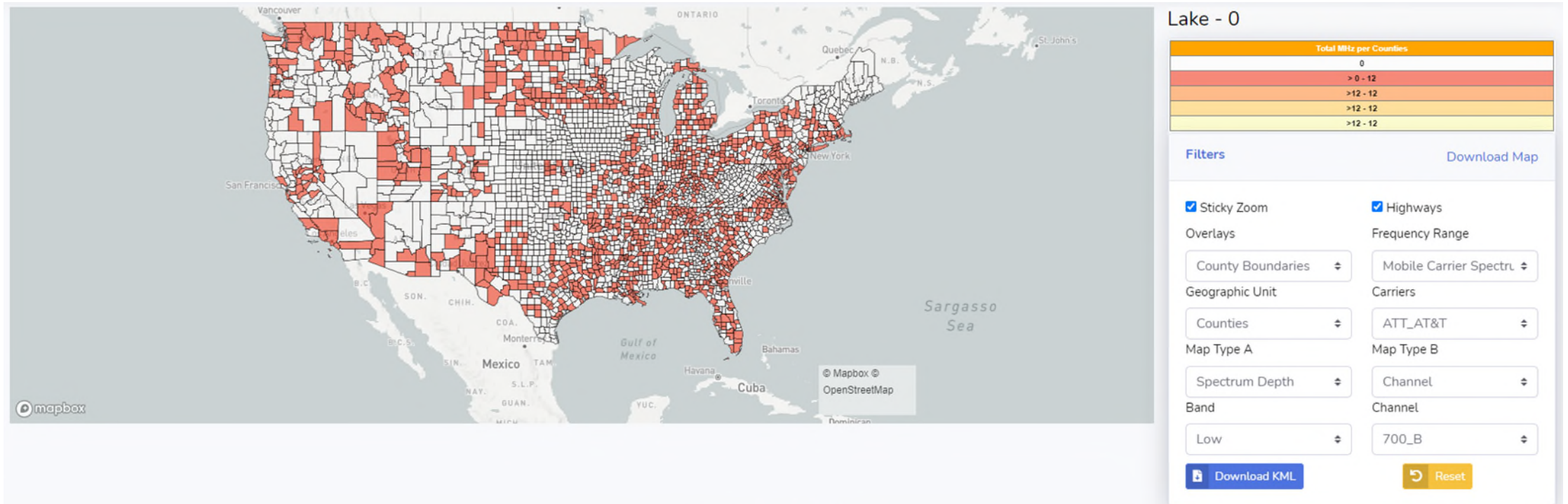
Spectrum Depth Mapping Frequency Band



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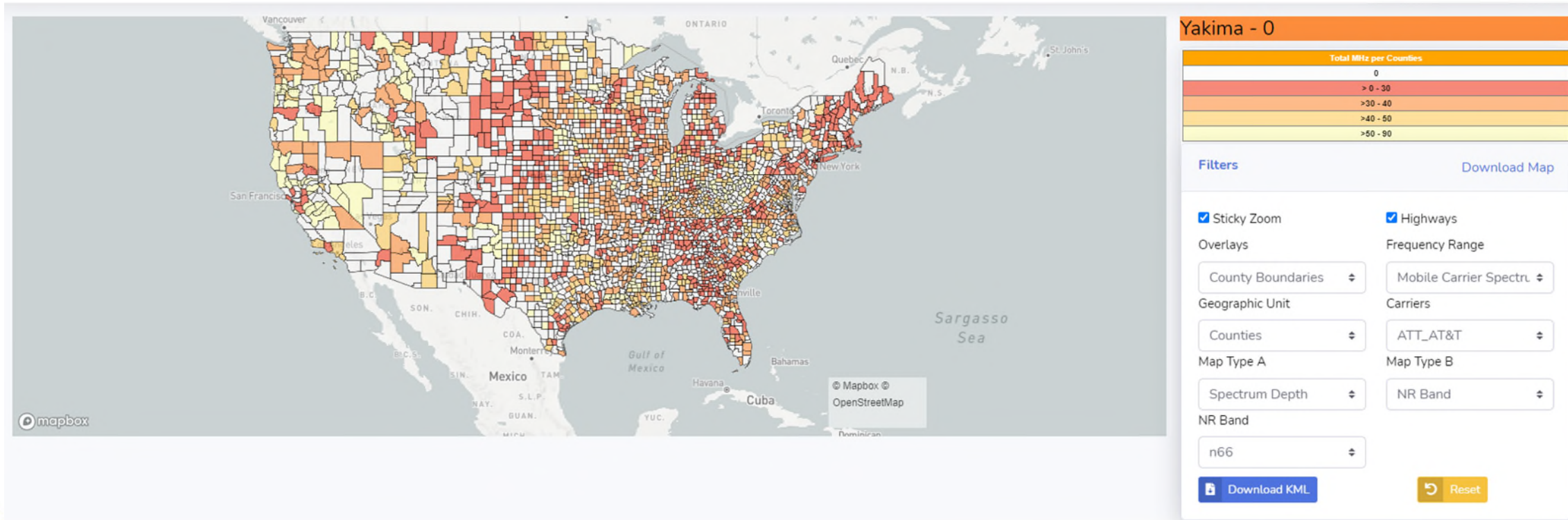
Spectrum Depth Mapping Channel Block



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Spectrum Depth Mapping NR Band



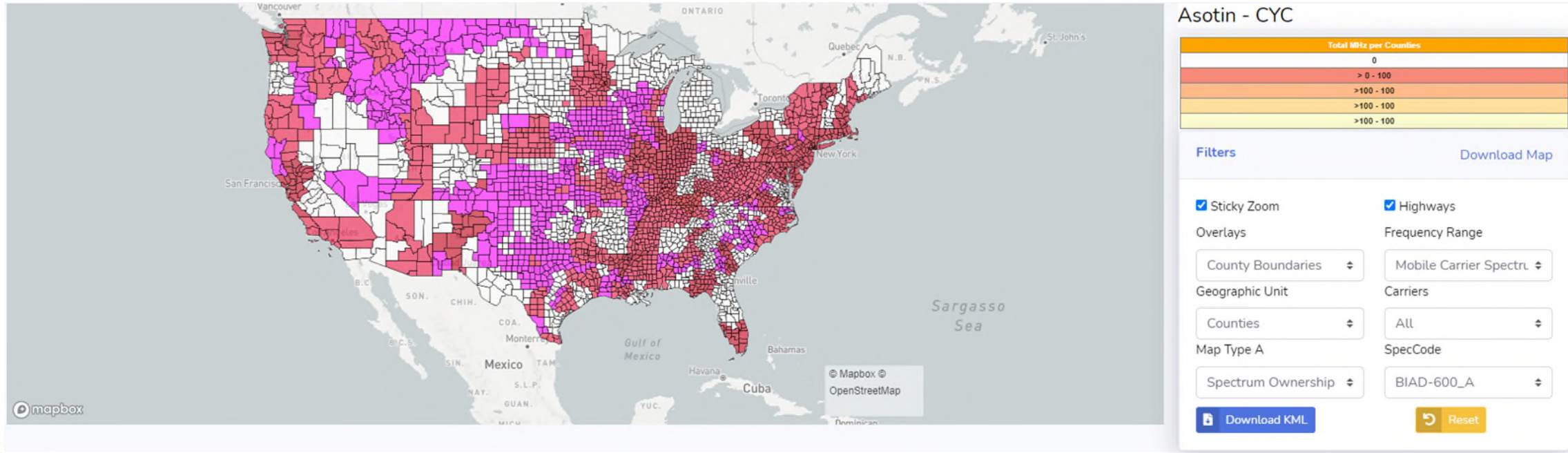
Spectrum Ownership Mapping

Spectrum Ownership Mapping displays the spectrum owner for a single block of spectrum for each US county. The counties are colored in the branding colors of the major carriers. When you use the pointer to move over a county, the county name and operator is displayed above the legend.

This provides an easy way to visualize who the adjoining market operators are for frequency coordination and interference management as well as to determine what markets to acquire to expand a contiguous footprint.



Spectrum Ownership Mapping



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Web: <https://www.spektrummetrics.com>

Phone: +1 (425) 522-2142



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Metrics**