



Part 15 Waivers & Spectrum Proceedings

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Policy and Rules Division

The Policy and Rules Division conducts proceedings to develop policy and rules with respect to spectrum allocation and use, equipment authorization, and unlicensed devices. The Division maintains the Table of Frequency Allocations and represents the Commission on NTIA's Interdepartmental Radio Advisory Committee (IRAC) and coordinates Federal and non-Federal frequency assignments in shared frequency bands.

- **Technical Rules Branch** – Develops rules and standards for unlicensed devices that operate under Parts 15 and 18.
- **Spectrum Coordination Branch** - Coordinates Federal and non-Federal frequency assignments in shared frequency bands.
- **Spectrum Policy Branch** -Develops policy, regulations and procedures regarding spectrum allocation and use, including modifications to the Table of Frequency Allocations.



Part 15 Waivers

- **A Radio frequency device that operates in accordance with the Part 15 unlicensed rules may not be marketed unless it has completed the appropriate equipment authorization process, certification in most cases.**
- **Certification will only be granted for a device that has demonstrated compliance with all applicable Commission Rules.**
- **If a specific rule cannot be complied with, the responsible party may submit a request for waiver.**



Waiver Process

- **A request must demonstrate that there is good cause to waive the specific rule requirement.**
 - If the staff determines that the request warrants further consideration, it typically will release a public notice establishing a period for public comment.
- **The request will be granted or denied based upon review of the entire record.**
 - When appropriate, grants may include special conditions intended to ensure that underlying purpose of the waived rule continues to be satisfied.
- **Parties are expected to provide a copy of the granted waiver when submitting the application for certification.**



Recent Waiver Grants and Filings

- **Information about waiver filings and decisional documents may be found on the Commission's website**
 - The OET website includes headline links related to all Office activities : **www.fcc.gov/engineering-technology**
 - Commission and staff- level decisions may be found in the EDOCS system: **www.fcc.gov/edocs**
 - Petitions and related comment may be found in the ECFS system: **www.fcc.gov/ecfs**
 - Decisions are references by FCC/DA #; Most proceedings may be found by Docket No.; Text/title search also available
- **Recent Waivers have reflected a variety of emerging technologies. Some examples include...**

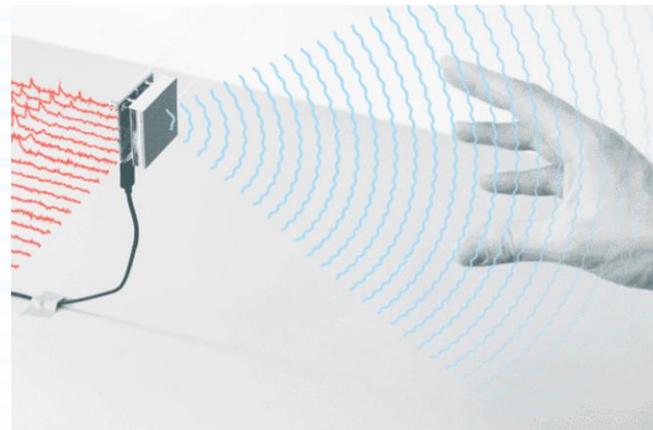


Motion Sensing Devices

- **Google Soli (DA 18-1308)**

Product allows devices to operate by sensing gestures rather than touch;

Required waiver of power requirements for devices operating in the 57-71 GHz band (15.255)



- **32 Technologies, LLC (DA 18-1210)** – Tracking dog collar intended to confine pet to defined area; Required waivers of certain restrictions regarding outdoor operations in the 5925-7250 MHz Band (15.250)



Detection/Screening

- **Evolv Edge (DA 17-1073)** Walk-through security screening system; Required waivers of rules related to measurement procedures and emission limits (15.35 and 15.31)



- **Liberty Defense (Open ET Docket 19-217)** seeks waivers of rules related to measurements, ultra-wideband(UWB) operations and certain user restrictions (15.31, 15.503, 15.511, and 15.521) for its HEXWAVE weapons/threat detection system



Ground Penetrating Radar (GPR), mapping, measuring & industrial uses

- **Proceq (DA-18-251, DA 19-892)** GPR used for nondestructive testing of materials such as concrete, metals, rock and composites. Required waivers of ultra-wideband (UWB) operations (15.31, 15.503, 15.511, and 15.521) and modified to expand frequency range.
- **Wavesense (Open ET Docket 19-241)** driver-assistance technology, which relies on UWB GPR to enable active lanekeeping in challenging environmental conditions; seeks waivers of certain operational and Federal coordination requirements (15.509 and 15.525)
- **GSSI (Open ET Docket 19-155)** request for waivers of the UWB rules to enable it to market up to 2000 evaluation kits for an UWB GPR intended to enable self-driving cars to read features of the roadbed beneath the pavement. (15.31, 15.503, and 15.509)



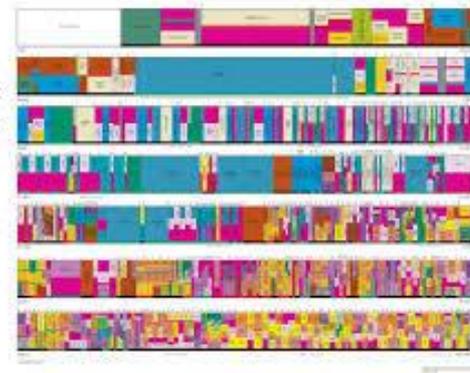
Medical devices

- **Zoll Medical /Kyma Medical Tech (DA 16-1009 mod. By DA 19-742)** – uCor medical device to monitor congestive heart failure; Required waivers of Sections 15.31, 15.503, 15.513, and 15.521 for bandwidth, measurement, and frequency range
- **Sensible Medical Innovations, LTD (DA 19-937)** - ReDS System designed to measure lung fluid measurements in congestive heart failure patients ; Required waivers of Sections 15.31, 15.503, 15.513, 15.521, and 15.525 related to bandwidth, frequency range, measurements and coordination
- **MIT (Open ET Docket No. 19-89)** – WiTrack system passively monitors mobility, breathing, and other physiological signals in patients without body-worn sensors; Requests Waivers of Sections 15.503, 15.31, and 15.521 related to UWB operations and measurements.



Spectrum Developments

- **OET is directly responsible for Experimental (Part 5), Unlicensed Device (Part 15) and Industrial, Scientific, and Medical Equipment (ISM) (Part 18).** The Policy and Rules Division is directly responsible for conducting proceedings that modify the rules and procedures, including spectrum availability, related to these areas.
- **Implementing new services or providing additional spectrum for existing services typically require modifications to the Table of Frequency Allocations.**
 - The Policy and Rules Division conducts proceedings to implement new allocations and closely collaborates with other bureaus that are responsible for individual service rules.





FCC 5G FAST Plan

“At the FCC, we call our strategy for U.S. leadership in fifth-generation wireless technology the 5G FAST plan. It consists of three central components: freeing up much more spectrum for the commercial marketplace, promoting wireless infrastructure deployment, and modernizing our regulations to promote more fiber deployment.” – Chairman Ajit Pai




www.fcc.gov/5G



FCC 5G FAST Plan-Spectrum

The FCC is taking action to make additional spectrum available for 5G services.

- **High-band**: Concluded 5G spectrum auction for the 28 GHz & 24 GHz bands. Auctions for the upper 37 GHz, 39 GHz, and 47 GHz bands on their way!
- **Mid-band**: With our work on the 2.5 GHz, 3.5 GHz, and 3.7-4.2 GHz bands, we could make up to 844 megahertz available for 5G deployments.
- **Low-band**: The FCC is acting to improve use of low-band spectrum with targeted changes to the 600 MHz, 800 MHz, and 900 MHz bands.
- **Unlicensed**: Recognizing that unlicensed spectrum will be important for 5G, the agency is creating new opportunities for the next generation of Wi-Fi in the 6 GHz and above 95 GHz band.



Spectrum Horizons

ET Docket No. 18-21

- **FCC expanded access above 95 GHz**
- **Order adopted March 15, 2019**
 - Final regulatory activities ongoing
- **Total of 21.2 GHz for unlicensed use**
 - 116-123 GHz, 174.8-182 GHz, 185-190 GHz and 244-246 GHz, bands
 - Similar to 60 GHz rules
 - Selected high absorption bands
- **New type of experimental licenses > 95 GHz**
 - Longer license terms
 - Ability to sell devices



6 GHz (Proposed Unlicensed) ET Docket 18-295

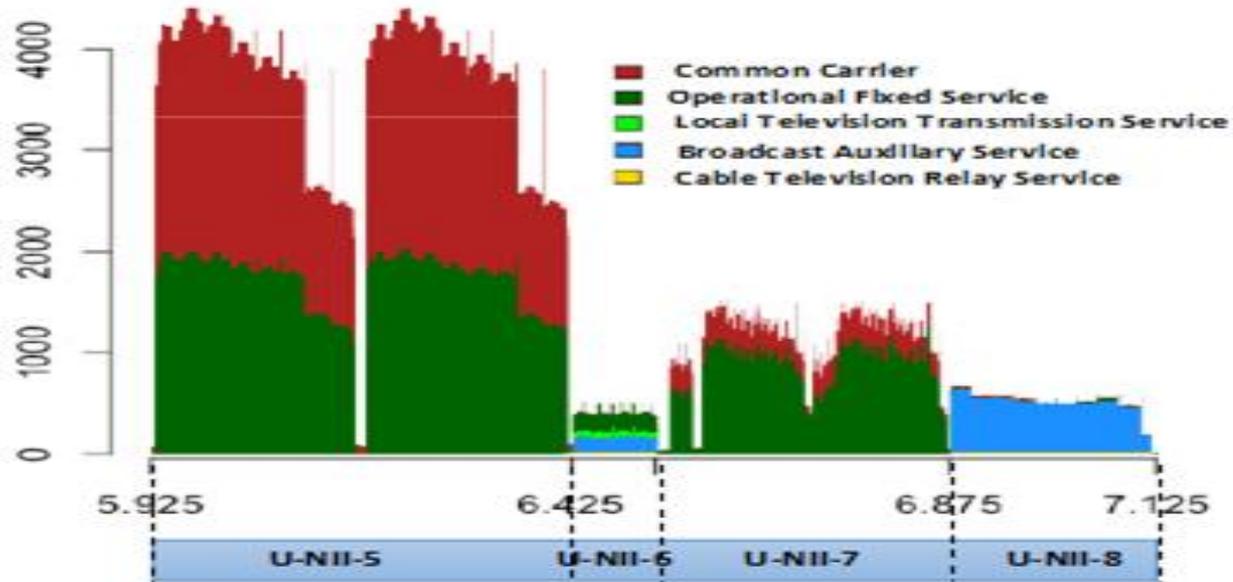


Figure 1. Assignment Density

Band (GHz)	Primary Allocations	Reference used in this NPRM ⁶³	Devices
5.925-6.425	Fixed Service FSS	U-NII-5	Standard-Power Access Point
6.425-6.525	Mobile Service FSS	U-NII-6	Low-Power Access Point
6.525-6.875	Fixed Service FSS	U-NII-7	Standard-Power Access Point
6.875-7.125	Fixed Service Mobile Service FSS ⁶⁴	U-NII-8	Low-Power Access Point



Spectrum Frontiers

Spectrum Allocations

- 12.55 GHz of Spectrum added for mobile
 - **Licensed Bands (Total 3.85 GHz):**
24.25-24.45 GHz and 24.75-25.25 GHz; 47.2-48.2 GHz; 27.5-28.35 GHz; 37-38.6 GHz; 38.6-40 GHz;
 - **Unlicensed Bands (Total 7 GHz):**
64-71 GHz

Service Rules

- Part 30: Upper Microwave Flexible Use Service (UMFUS)
- Geographic Area Licensing, Area Size, Band Plan, License Term, Overlay Auctions
- Technical rules
- Performance Requirements



Questions ?

Thank you!