

### Part 90 FCC licensing from A to Z

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### Webinar Overview

- FCC.gov
  - Where to find part 90 rules
  - Where to get your FCC Registration Number (FRN)
  - Navigating the Universal Licensing System (ULS)
- FCC Form 601 application process
- Frequency Coordination Basics
- Q & A



### FCC.GOV Main page

- FCC Registration Number. You must have an FRN to apply for a license. You only need one FRN per entity.
- Universal Licensing System. This is where all granted license information can be found.
- 47 CFR is where you find part 90 and other FCC rules.

Access Now

PSIX-ESIX
Interference Complaints

**EDOCS**Commission Documents

FRN FCC Registration Number ECFS Electronic Comment Filing System

ULS Universal Licensing

Auctions
Spectrum Auctions

NAC

Comment Licensed Broadcasters

OET-EAS Equipment Authorization

47 CFR
Electronic Code of
Federal Regulations

See less

MAP
Most Active Proceedings

M&T tion Mergers & Transactions

> **B&PR** Budget & Performance Reports



## FCC Registration Number (FRN)

- To apply for an FCC license, you must have an FRN.
- To get an FRN go to this page: <u>https://www.fcc.gov/licensing-databases/commission-registration-system-fcc</u>
- Here you can look up an FRN, register for a new FRN or associate FRNs if you have multiple.
- This is a link with tutorials to navigate the FRN process.

https://www.fcc.gov/licensingdatabases/fcc-registration-systemcores/commission-registration-systemvideo-tutorials

# Updated CORES System

- Register and update Username Account
- Create, update and associate FRN(s)
- Search for public FRN information



## 47 CFR Code of Federal Regulations

- The rule sections you will use most will be in Subchapter D.
- The majority of public safety rules can be found in part 90.
- When you click on subchapter D there will be a list of applicable rule sections from 80-199.

•	ECFR CONTENT	
	▼ Title 47 Telecommunication	Part / Sectio
	▼ Chapter I Federal Communications Commission	0 - 199
	Subchapter A General	0 - 19
	Subchapter B Common Carrier Services	20 - 69
	Subchapter C Broadcast Radio Services	70 – 79
	Subchapter D Safety and Special Radio Services	80 – 199
	► Chapter II Office of Science and Technology Policy and National Security	200 – 299



## 47 CFR Code of Federal Regulations

- You can click on Part 90 or Private Land Mobile Radio Services (PLMRS).
- Each option gives you a different view.
- Clicking on Part 90 brings you to a list of the rule sections under part 90.
- Clicking on PLMRs takes you straight to the first page of Part 90. You can click on table of content on the left side to see the list of rule sections.

ECFR CONTENT		
▼ Title 47 Telecommunication	Part / Section	
▼ Chapter I Federal Communications Commission	0 - 199	
▼ Subchapter D Safety and Special Radio Services	80 - 199	
▶ Part 80 Stations in the Maritime Services	80.1 - 80.1252	
▶ Part 87 Aviation Services	87.1 - 87.529	
▶ Part 90 Private Land Mobile Radio Services	90.1 - 90.1338	
Part 94 [Reserved]		



- The first section under the ULS is Filings.
- New User Registration: Brings you back to the FRN page.
- File Online: This is where you manage your licenses. You need your FRN and password to access this page.
- Obtain Official ULS Authorization: The FCC no longer sends official copies of your license. If you need one go to this page for instructions.

### Filing

#### New User Registration

Register with the FCC.
Read More about registering.

### Submit a Pleading

Special Temporary Authority and Waiver Request Filing Guide

Compilation of instructions for special temporary authority and waiver requests.

#### File Online

Apply for a new license, renew, modify, assign authorization, transfer of control, manage licenses and applications, associate call signs and more.

#### Reset Password

### Obtain Official ULS Authorization

Instructions for downloading your granted ULS Authorization.

#### **ULS Confidential Filings**

Consistent with Public Notice DA 20-361 released on March 31, 2020, all requests for confidential treatment associated with ULS filings may continue to be filed electronically in ULS (using attachment type "confidential").



- Submit a Pleading: Where you can submit any pleading.
- Special Temporary Authority and Waiver Request Filing Guide: This page has instructions for filing an STA and who to call for an emergency STA.
- ULS Confidential Filings: This link goes to DA 20-361. FCC provides further instructions regarding submission of confidential materials

### Filing

#### New User Registration

Register with the FCC. Read More about registering.

Submit a Pleading

#### File Online

Apply for a new license, renew, modify, assign authorization, transfer of control, manage licenses and applications, associate call signs and more.

#### Reset Password

#### 111.6

Authority and Waiver Request Filing Guide

**Special Temporary** 

Compilation of instructions for special temporary authority and waiver requests.

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Instructions for downloading your granted ULS Authorization.

#### **ULS Confidential Filings**

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- The next section is Searching.
- License Search: You can search for granted licenses. You can search by Call Sign, FRN, Entity name or do an advanced search.
- Application Search: You can search any pending applications. You can search by the ULS#, FRN, Entity name or do an advanced search.
- License Archive Search: You can search for old call signs that have been inactive for an extended period.

### Searching

#### License Search

Search for license across all services.

#### **Application Search**

Search for applications across all services.

#### License Archive Search

Search for archived licenses across radio service codes.



- Other options on the ULS
- Pay Fees: If you have any fees owed to the FCC you would pay here.
- Forms: This page has a list of all FCC forms and rules that apply to them.
- Processing Utilities: Here you can find lists of systems and utilities used by the FCC. There are links that will take you to the appropriate pages.
- ULS Electronic Batch Filing EBF: Information on EBF requirements.
- TCNS/E106: Information and filing links for towair requirements.
- Towair: You can check if you tower requires registration. Or find Antenna Structure Registration numbers for existing towers.

### **Universal Licensing System**

Pay Fees

Forms

**Processing Utilities** 

ULS Electronic Batch Filing - EBF

TCNS / E106

TOWAIR

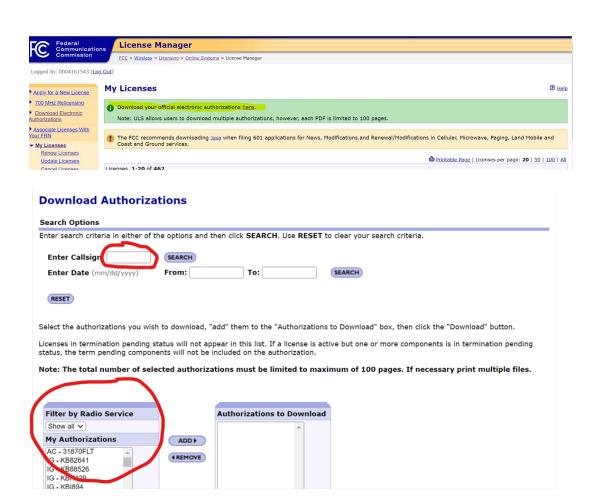
AM Tower Locator

Hearing Aid Compatibility Status Reporting



### License Manager

- You can manage your licenses by logging into your FRN account.
- You can download your official electronic authorization.
- You can select multiple call signs to download at the same time.





### License Manager

- Under My Licenses is where you will find most of the needed tools to manage your call signs
- You can renew call signs. If you click on renew, there will be a list of call signs that are ready for renewal. If there is nothing in the box, you don't have licenses that need renewal.
- You can do administrative updates such as updating your email address by clicking on Update licenses. You can update multiple call signs at once.

- ▶ Apply for a New License
- 700 MHz Relicensing
- Download Electronic
   Authorizations
- Associate Licenses With Your FRN
- ▼ My Licenses

Renew Licenses

**Update Licenses** 

Cancel Licenses

**Assign Authorization** 

Transfer Control

Lease Spectrum

File Designated Entity
Reportable Event

File Designated Entity

Annual Report

Notify the FCC

**Extend Deadlines** 

### My Licenses

Download your off
 Note: ULS allows u

The FCC recomme
 Coast and Ground

Licenses 1-20 of 462

TP =This call sign or a

L = Lease(s)

#### License

- 1 31870FLT
- 2 KAD9212
- 3 KB43590

LUDZOCOS



### License Manager

- If you click on one of your call signs, there is a box on the right called Work on this license.
- From this box you can click on Notify the FCC to file your buildout notification and other notices.
- It also has any extended deadlines.





# License Review (Main Page)

- The main page provides the license contact information, FRN, expiration date any associated call signs and the type of license it is.
- It is very important that you maintain good contact information. This is the only way that the FCC, frequency coordinators or incumbent licensees have to contact you.





# License Review (Admin Page)

 The admin page shows any applications for modifications, renewals and admin updates.
 Letters/email notifications that have been sent, license history, special conditions and attachments can also be found on this page.





## License Review (Locations Page)

• The locations page shows all locations listed on a call sign. You can click on the location number to see more details on a location. For fixed sites you can find an ASR#, the azimuth and beamwidth. For mobiles if the AOP is other the details would be listed.



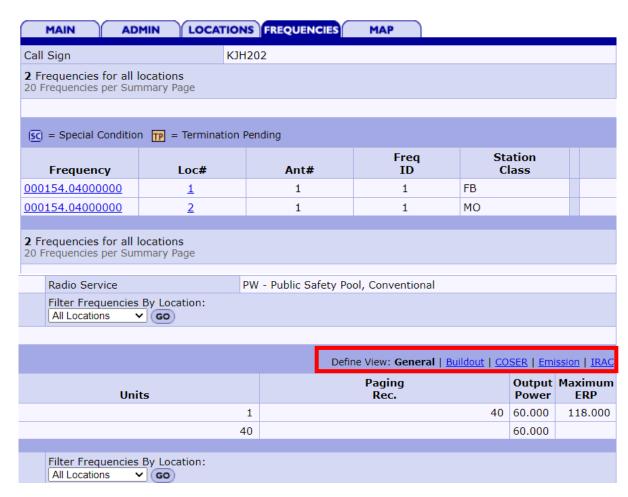


# License Review (Locations Page)

Location 1 (Fixed)					
Frequencies (2)					
100 E MILLER STREET NEWARK, NY WAYNE County			Coordinates	43-02-49.2 N, 077-05-23.9 W	
Site Elevation (AMSL)	138.0m		Height w/o Appurtenances	13.0m	
ASR #/File #	N/A		Height w/ Appurtenances	22.5m	
Support Structure Type	BTWR - Building with Tower				
NEPA Required					
Quiet Zone Notification Date			Quiet Zone Consent		
Is coordination with Canada required?					
Is coordination with Mexico required?	Is coordination with Mexico required?				
Special Conditions	None				
Antenna 1					
HAAT	4.0	Hgt to Tip	22.5m	Polarization	V - Vertical
Azimuth	360.0°	Beamwidth	360.0°	Gain	2.5dBi

# License Review (Frequencies Page)

- The frequency page contains a lot of important information.
- On the general page it shows the frequencies, locations, station class, units and powers.
- You can change to see your buildout deadline and if one has been filed.
- If you are in a Canadian Border area you can check your COSER results and find your COSER number.
- You can also look at the emissions assigned to the license.
- And last you can look at the IRAC review.





## License Review (Buildout Page)

- This is a view of the buildout page.
- The first box is Buildout First use, this is the date the frequency was granted.
- Next is the Deadline, this is the date you must complete your buildout by or request an extension.
- The last box indicates the date the notification was complete, and your system/frequency was put on the air.

			Define View: General   Buildout   COSER   Emission   IRAC	
Buildout First Use	Buildout Deadline	Discontinuance Date	Buildout Notification	
02/01/2018	02/01/2019		04/03/2019	
10/13/2020	10/13/2021		10/05/2021	
01/03/2022	01/03/2023		12/30/2022	
04/30/2024	04/30/2025			
10/13/2020	10/13/2021		10/05/2021	
01/03/2022	01/03/2023		12/30/2022	
04/30/2024	04/30/2025			
02/01/2018	02/01/2019		04/03/2019	
10/13/2020	10/13/2021		10/05/2021	
01/03/2022	01/03/2023		12/30/2022	
04/30/2024	04/30/2025			
10/13/2020	10/13/2021		10/05/2021	
01/03/2022	01/03/2023		12/30/2022	
04/30/2024	04/30/2025			



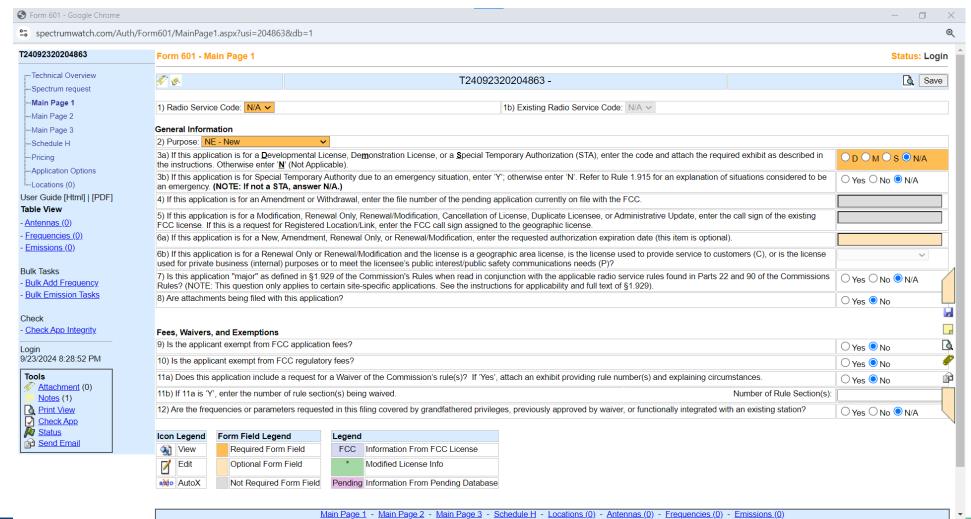
## License Review (COSER Page)

- This is a view of the COSER page.
- COSER is for applications in the Canadian Border areas.
- The first box is the COSER number assigned to that frequency.
- Next is the COSER Req Type, if there is harmful interference it will be Y and not harmful is N
- Last is the COSER results. NHIA indicates no harmful interference anticipated. HIA would be harmful interference. If an application is granted you will not see HIA.

COSER Number	COSER Req. Type	COSER Result
2018100058	N	NHIA
2019105628	N	NHIA
2021105073	N	NHIA
2024101700	N	NHIA
2019105626	N	NHIC
2021105072	N	NHIA
2024101698	N	NHIA
2018100057	N	NHIA
2019105627	N	NHIC
2021103635	R	NHIC
2024101699	N	NHIA
2019105625	N	NHIA
2021105074	N	NHIA
2024101697	N	AIHN



## FCC Form 601 (Main Page 1)

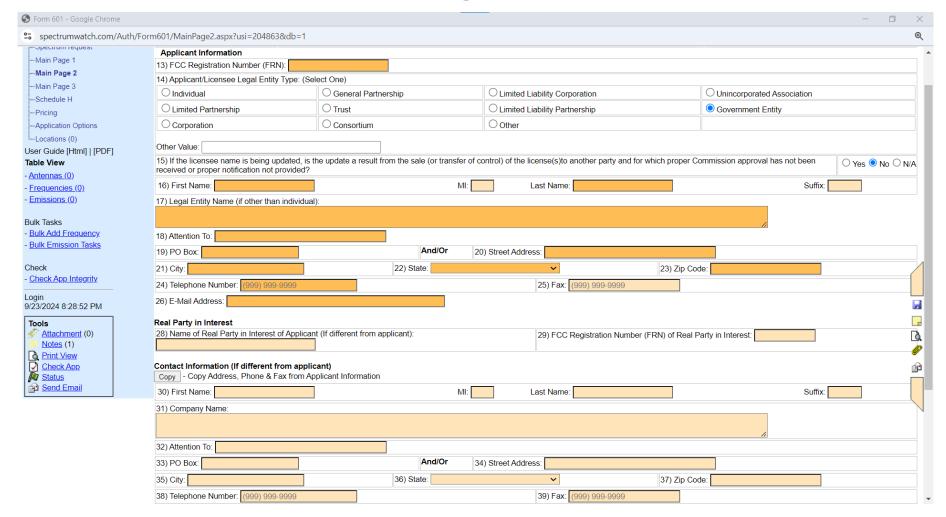


### FCC Form 601 (Main Page 1)

- Main Page 1 contains the following
- Radio Service Code (RSC) PW, YW ......
- Purpose of the application. New, Mod.. if it is permanent or STA.
- General information like the call sign, if it is a major modification or if there are attachments.
- It asks about fee exemption, waivers and grandfathering. Most public safety agencies are exempt from FCC fees, but some do have to pay the application fee.



# FCC Form 601 (Main Page 2)



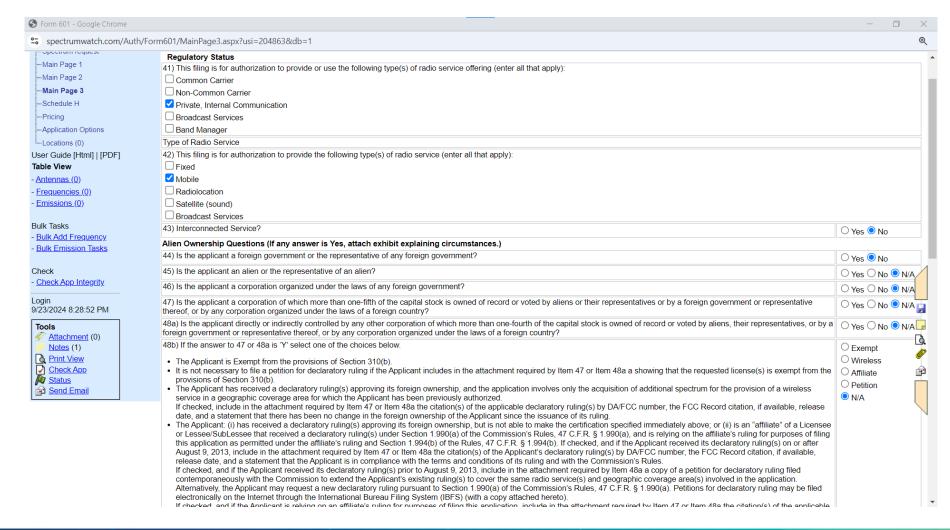


## FCC Form 601 (Main Page 2)

- Main Page 2 is your administrative information:
- FRN and entity type. This must match what the FRN is registered as.
- Contact information for the entity. For public safety we do not answer line 16. Please make sure you are using a valid email address that someone checks regularly. The FCC no longer mails notifications or copies of granted licenses.
- Public safety does not fill out 18 Real party in interest.
- The contact area is not required if it is the same as the entity information.



## FCC Form 601 (Main Page 3)



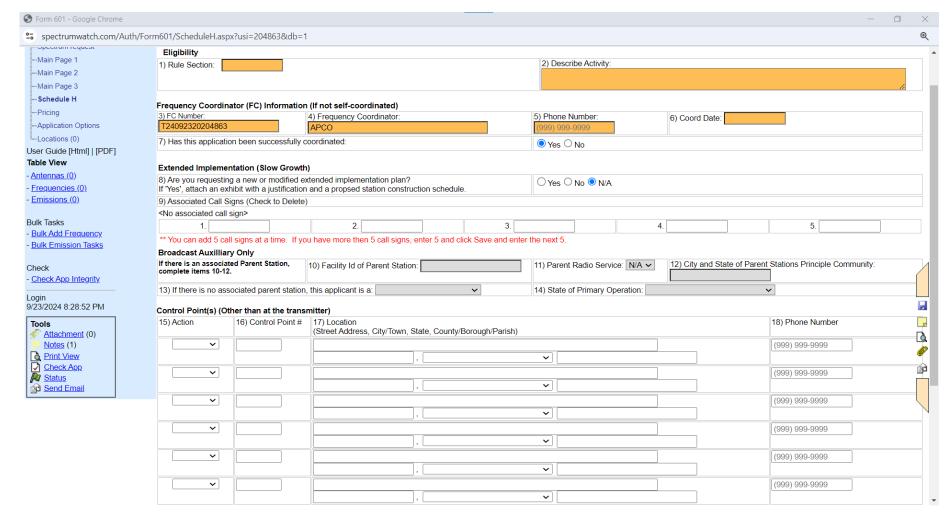


### FCC Form 601 (Main Page 3)

- Main page 3 is regulatory and alien ownership questions. For public safety these are usually no or N/A. If you do answer any yes, documentation is usually required.
- Public Safety must provide a name and title for the person at the entity that is authorizing the application. It cannot be a preparer or consultants name and title.



# FCC Form 601 (Schedule H)





## FCC Form 601 (Schedule H)

- The schedule H requires the following information
- Eligibility: the rule applicable rule section like 90.20 and a description of the intended radio activity.
- Frequency coordinator information: this auto populates.
- Slow growth or extended implementation.
- If you have any associated call signs you would enter them here.
- Control Stations: this is where an official copy of the license is kept.



## FCC Form 601 (Schedule D locations)

S Form 601 - Google Chrome			- 0 X		
\$\frac{1}{2}\$ spectrumwatch.com/Auth/Form601/LocEdit.aspx?usi=204863&db=1∾=N					
Main Page 2	1) Action Requested: Add V	2) Location Number: 1 V	A		
Main Page 3	3) Location Description:	4) Area of Operation Code:	5) Location Name:		
Schedule H	Fixed	<u> </u>			
PricingApplication Options		nd ASR			
Locations (0)	7) Latitude (NAD83):	8) Longitude (NAD83):	● w ○ E		
User Guide [Html]   [PDF]	9) Street Address, Name of Landing Area, or Other Location Descrip	tion:	₩ ∪E		
Table View	9) Street Address, Name of Landing Area, or Other Location Descrip	iiOTI.			
	10) City:	11) State:	12) County/Borough/Parish:		
- Antennas (0)		<u> </u>			
	13) Elevation of Site AMSL: ('a' in antenna structure example)	14) Overall Ht AGL Without Appurtures: ('b' in antenna structure example)	15) Overall Ht AGL With Appurtures: ('c' in antenna structure example)		
- Frequencies (0)	meters Calculate	meters	(C in antenna structure example) meters		
- Emissions (0)	16) Support Structure:				
Bulk Tasks	* = Values are used only to support ASR Prefill. Value must be change	ed to a NON-stared value before filing no matter what the ASR's structure	type. Stared values will not be accepted by the ECC.		
- Bulk Add Frequency	17) Loc. Number:		sype. dance values in not so describe sy ule 1 de.		
- <u>Bulk Emission Tasks</u>	(only for AOC 'A') 18) Radius (km):	19) Airport Identifier:	20) Site Status:		
Check					
- Check App Integrity	21) Maximum Latitude (NAD83):	22) MaximumLongitude (NAD83)			
Login	Use for rectangle only (Northwest corner)	Use for rectangle only (Northwest	OW OE		
9/23/2024 8:28:52 PM	23) Do you propose to operate in an area that requires frequency co-	ordination with Canada:	○ Yes ○ No ● N/A		
Tools  Attachment (0)	24) Description (only for AOP code 'O'):	ordination with Garlada.	O fes O NO W N/A		
Notes (1)	24) Bescription (only for Not code 5).				
Print View					
Check App  Status					
Send Email	25) Number of Units:	· ·			
	Hand Held: Mobile:	Temp. Fixed: Aircraft:	Itinerant:		
26) Would a Commission grant of Authorization for this location be an action which may have a significant environmental effect? See Section 1.1307 of 47 CFR. If 'Yes', submit an environmental as required by 47 CFR, Section 1.1308 and 1.1311.					
27a) If the site is located in one of the Quiet Zones listed in Item 27b of the Instructions, provide the date (mm/dd/yyyy) that the proper Quiet Zone entity was notified:					
27b) Has the applicant obtained prior written consent from the proper Quiet Zone entity for the same technical parameters that are specified in this application?					
	28) Do you propose to operate in an area that requires frequency co	ordination with Mexico?	○ Yes ● No		

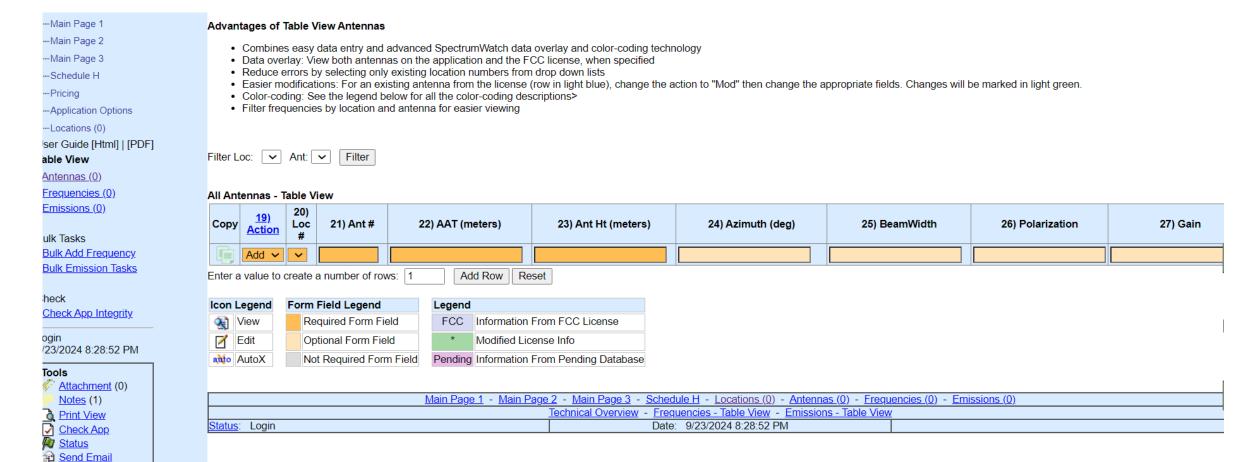


## FCC Form 601 (Schedule D locations)

- The location page is used for all types of location request; Fixed,
   Mobile, 6.1 meter, and temporary.
- You can add, modify or delete locations.
- The location type will dictate what information is required. For fixed site you must have coordinates, address, structure heights with and without appurtenances, structure type and elevation.
- Mobile and temp location information will depend on the area of operation.
- 6.1 M sites only require the state and if they operate near Canada.



## FCC Form 601 (Schedule D antennas)

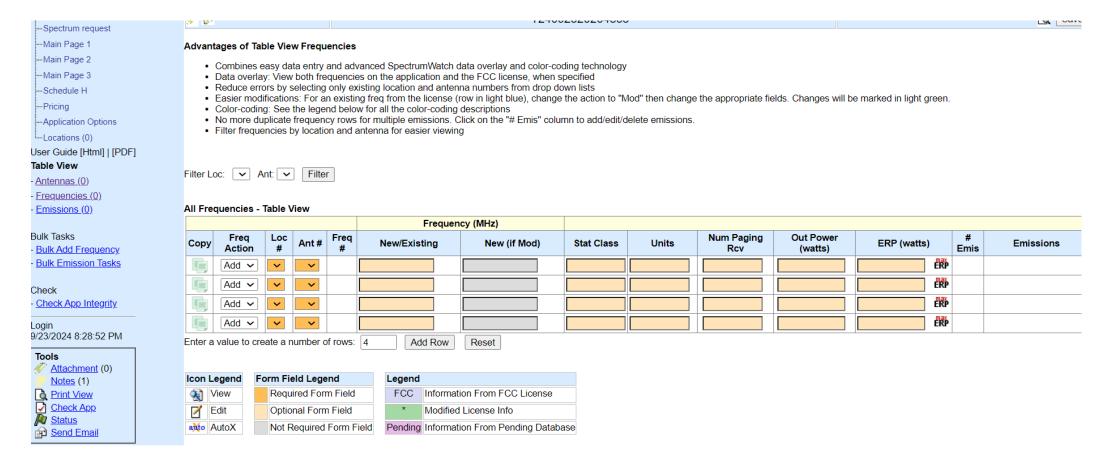


## FCC Form 601 (Schedule D antennas)

- The antenna page is where you will provide the height of the antenna as it is mounted on the structure. The antenna height cannot exceed the overall height with appurtenances that is listed on the associated location.
- You can provide azimuth and beamwidth. If you do you should also let your coordinator know what antenna model you plan to use.
- If you do not know the Height Above Average Terrain (HAAT) your coordinator can calculate that for you.



## FCC Form 601 (Schedule D frequencies)

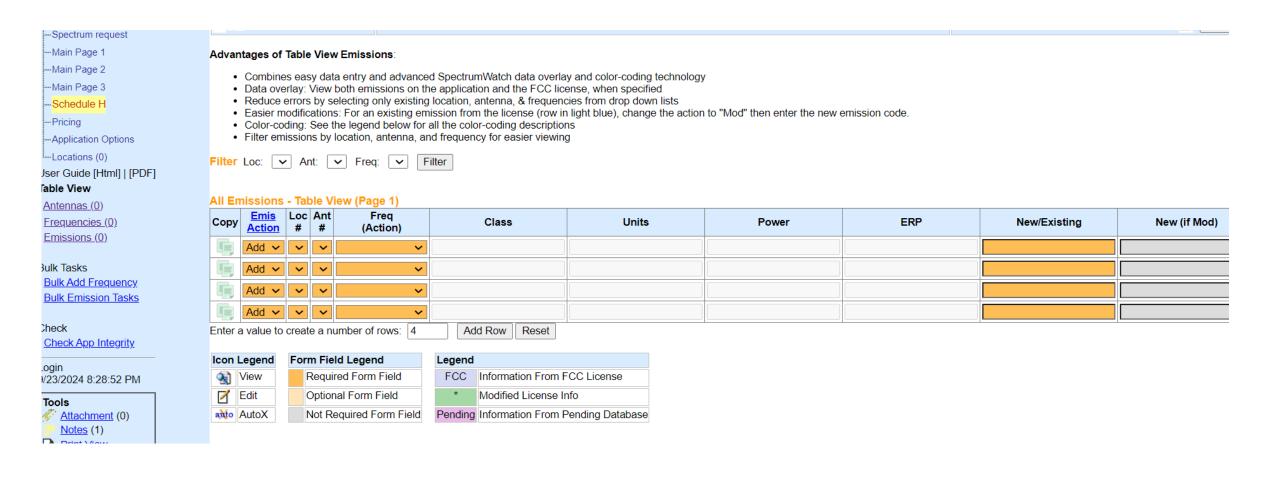


# FCC Form 601 (Schedule D frequencies)

- You can add, modify or delete frequencies from this page.
- If you do not have a specific frequency you want to use, you can leave the frequency box empty.
- If you want to change an existing frequency for a new one. Do not write over the existing frequency, add it to the New if Mod box.
- You will need to provide the station class for each frequency requested. If you are unsure call your frequency coordinator.
- You will need to provide how many mobile/portable units you will program and how many 6.1 meter sites you are using.
- You will need to provide the output and effective radiated power (ERP)



# FCC Form 601 (Schedule Demissions)





## FCC Form 601 (Schedule D emissions)

- The last page of the application is for emission designators.
- You want to request the emission designators that will be used in your radios. You should not request emission designators that you may use in the future.
- For VHF, UHF and TV Band, you must use a 12.5 KHz emission or less or you will need to attach documentation that your equipment meets the narrowband requirements.



## Application process

- When you submit an application to a frequency coordinator, we have steps we must follow before submitting the application to the FCC.
- We must coordinate the application according the guidelines provided by the FCC and the Public Safety Communications Council (PSCC).
- We must ensure that the application follows the FCCs rules and regulations.
- After we have completed the coordination, we must put the application out for a 5-business day notification process. This allows all four Public Safety Coordinators avoid conflicting applications.
- Applications that are submitted with incorrect or partial information will take longer to process. If you are unsure of what information is needed or how to find it, contact your frequency coordinator before submitting the application.



- Coordinators try to find you the best available frequency that is least likely to cause or receive interference. VHF and UHF are considered shared spectrum. The FCC does not consider hearing noise occasionally as harmful interference.
- While the coordinators try to assign suitable frequencies, it is up to the license holders to ensure they are using their radios at their licensed parameters.
- Many of the interference complaints that we receive are due to licensees working outside of those parameters. Frequency coordinators coordinate based on this licensed information.



- VHF (150-170 MHz) is the most requested spectrum, it is also the most congested. The fact that it isn't paired makes it more difficult to coordinate.
- UHF (450 470 MHz) is paired with a 5 MHz separation between the base and mobile.
- TV Band (470 512 MHz) is paired with a 3 MHz separation between the base and mobile. These frequencies are available in 13 urbanized areas.
- 800 MHz (854 860 MHz) is paired with a 45 MHz separation between the base and mobile. The FCC introduced the 12.5 KHz frequencies in 800 MHz a few years ago, opening up 300 plus frequencies in this range.
- 700/800 MHz NPSPAC frequencies are coordinated by the Regional Planning Committees (RPC). The majority of the regions require the applications be submitted in CAPRAD. You can find copies of the RPC plans at www.NRPC.us



- VHF, UHF, TV Band, and 800 MHz interstitial (12.5 KHz) frequencies all use R6602 Carey Curve contours as the method of coordination with varying dB values.
- 800 MHz co-channel analysis is done based on short spacing. Any incumbents between 88 113 KM requires short spacing be done.
   Incumbents less than 88 km require an LOC. Incumbents greater than 113 KM are not considered during coordination.
- 700/800 MHz NPSPAC frequencies follow the RPC plans for coordination guidelines.



- VHF, UHF, TV Band, 700 MHz and 800 MHz interstitial channels all require 12.5 KHz emission bandwidth or less. If your equipment uses a greater bandwidth, you must attach the narrowband compliance document.
- If you are in an area with high elevation you may run into safe harbor issues, limiting you to very low ERP. You can request a waiver of 90.205 with justification showing your service contour stays within your area of operation.
- If you are in a Canadian Border region, you are better off requesting a frequency that you may need a letter of concurrence from an American user. If a frequency looks good on the American side, it's usually an indicator that it is highly used in Canada.





Thank you for attending. Please contact me with any questions.

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