



# Part 90 FCC licensing from A to Z

Presented by:  
Amanda Bredstrup

**Sponsored by**



# 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

[See less](#)

**PSIX-ESIX**  
Interference Complaints

**ECFS**  
Electronic Comment  
Filing System

**LMS**  
Licensed Broadcasters

**MAP**  
Most Active Proceedings

**EDOCS**  
Commission Documents

**ULS**  
Universal Licensing  
System

**OET-EAS**  
Equipment Authorization

**M&T**  
Mergers & Transactions

**FRN**  
FCC Registration Number

**Auctions**  
Spectrum Auctions

**47 CFR**  
Electronic Code of  
Federal Regulations

**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:  
<https://www.fcc.gov/licensing-databases/commission-registration-system-fcc>
- 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/licensing-databases/fcc-registration-system-cores/commission-registration-system-video-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 / Section
▼ 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	
▼ <b>Title 47</b> Telecommunication	Part / Section
▼ <b>Chapter I</b> Federal Communications Commission	0 – 199
▼ <b>Subchapter D</b> Safety and Special Radio Services	80 – 199
▶ <b>Part 80</b> Stations in the Maritime Services	80.1 – 80.1252
▶ <b>Part 87</b> Aviation Services	87.1 – 87.529
▶ <b>Part 90</b> Private Land Mobile Radio Services	90.1 – 90.1338
Part 94 [Reserved]	



# Universal Licensing System (ULS)

- 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		
<a href="#">New User Registration</a> Register with the FCC. <a href="#">Read More about registering.</a>	<a href="#">File Online</a> Apply for a new license, renew, modify, assign authorization, transfer of control, manage licenses and applications, associate call signs and more. <a href="#">Reset Password</a>	<a href="#">Obtain Official ULS Authorization</a> Instructions for downloading your granted ULS Authorization.
<a href="#">Submit a Pleading</a>	<a href="#">Special Temporary Authority and Waiver Request Filing Guide</a> Compilation of instructions for special temporary authority and waiver requests.	<a href="#">ULS Confidential Filings</a> Consistent with <a href="#">Public Notice DA 20-361</a> 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").

# Universal Licensing System (ULS)

- 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.](#)

### [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.

### [Submit a Pleading](#)

### [Special Temporary Authority and Waiver Request Filing Guide](#)

Compilation of instructions for special temporary authority and waiver requests.

### [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").



# Universal Licensing System (ULS)

- 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.

# Universal Licensing System (ULS)

- 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.

The screenshot displays the FCC License Manager web interface. At the top, the FCC logo and 'License Manager' title are visible, along with a breadcrumb trail: 'FCC > Wireless > Licensing > Online Systems > License Manager'. A user is logged in as '0004161543'. The left sidebar contains navigation links: 'Apply for a New License', '700 MHz Relicensing', 'Download Electronic Authorizations', 'Associate Licenses With Your FRN', and 'My Licenses' (which is expanded to show 'Renew Licenses', 'Update Licenses', and 'Cancel Licenses'). The main content area is titled 'My Licenses' and includes a green banner for downloading electronic authorizations and a yellow warning about Java. Below this is the 'Download Authorizations' section, which has a 'Search Options' box. In this box, the 'Enter Callsign' field is highlighted with a red circle. Below the search box, instructions and a note about the 100-page limit are provided. At the bottom, the 'Filter by Radio Service' section is also highlighted with a red circle, showing a list of call signs: 'AC - 31870FLT', 'G - KB82641', 'IG - KB88526', 'IG - KB88526', and 'IG - KB8894'. To the right of this list is an 'Authorizations to Download' box with 'ADD' and 'REMOVE' buttons.

# 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.

The screenshot displays the 'License Manager' interface. On the left is a navigation menu with links: 'Apply for a New License', '700 MHz Relicensing', 'Download Electronic Authorizations', 'Associate Licenses With Your FRN', and a collapsed 'My Licenses' section. The 'My Licenses' section contains links for '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', and 'Extend Deadlines'. On the right, the 'My Licenses' header is followed by a green information box about downloading off-line data and a yellow warning box about FCC recommendations. Below these is a table showing 'Licenses 1-20 of 462'. A legend indicates that 'TP' stands for 'This call sign or a' and 'L' stands for 'Lease(s)'. The table lists three licenses: 1. 31870FLT, 2. KAD9212, and 3. KB43590.

**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	<a href="#">31870FLT</a>
2	<a href="#">KAD9212</a>
3	<a href="#">KB43590</a>

# 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.

Call Sign	KB43590	Radio Service	Industrial/Business Pool, Conventional (IG)
<b>! Inactive Licenses Cannot Be Updated Without Being Renewed</b> Because this license is not active, it must be renewed before additional updates and other filings can be performed. <a href="#">Begin the renewal process</a>			
<b>Applicant Name &amp; Address</b>			
WASTE MANAGEMENT HOLDINGS INC 1001 FANNIN SUITE 4000 HOUSTON, TX 77002 ATTN ALEXANDER POPOV OR SUE THORNELL		P: (713)328-7372 E: sthorne1@wm.ocm F: (713)328-7177	
<b>Dates</b>			
Grant	09/09/1998		
Effective	07/23/2003		
Expiration	11/22/2003		

**Work on this License**

- [Notify the FCC](#)  
Construction/  
Buildout/Coverage  
Extended  
Implementation  
Convert Developmental  
License
- [Extend Deadlines](#)  
Construction/  
Buildout/Coverage
- [Assign Authorization](#)
- [Transfer Control](#)

# 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.

MAIN					
ADMIN		LOCATIONS	FREQUENCIES	MAP	
Call Sign		KJH202		Radio Service	PW - Public Safety Pool, Conventional
Status		Active		Auth Type	Regular
Dates					
Grant		11/03/2020		Expiration	01/02/2031
Effective		08/09/2022		Cancellation	
Control Points					
1		POLICE & FIRE STATION S MAIN ST, LAMOILLE, STOWE, VT P: (802)253-7126			
Licensee					
FRN		0021836473 <a href="#">(View Ownership Filing)</a>		Type	Governmental Entity
Licensee					
STOWE, TOWN OF 350 South Main St STOWE, VT 05672 ATTN Donald Hull				P:(802)253-7126 E:dhull@stowevt.gov	
Contact					
STOWE, TOWN OF Donald Hull 350 South Main St Stowe, VT 05672 ATTN Donald Hull				P:(802)253-7126 E:dhull@stowevt.gov	
Land Mobile Data					
Extended Implementation (Slow				Assoc.Call Signs	



# 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.

MAIN			ADMIN			LOCATIONS			FREQUENCIES			MAP					
Call Sign						KJH202						Radio Service					
<b>Applications</b>																	
Receipt Date						File Number and Type											
08/08/2022						<a href="#">0010156130</a> AU - Administrative Update											
11/02/2020						<a href="#">0009283752</a> RO - Renewal Only											
01/16/2018						<a href="#">0008061718</a> AU - Administrative Update											
<a href="#">All Applications (11)</a>																	
<b>Automated Letters and Authorizations</b>																	
10/12/2020						<a href="#">6713870 Renewal Reminder -- Licensee</a>											
10/11/2010						<a href="#">5034410 Renewal Reminder -- Licensee</a>											
11/13/2000						<a href="#">568862 Renewal Reminder</a>											
<a href="#">All Automated Letters and Authorizations (4)</a>																	
<b>Comments</b>																	
None																	
<b>History</b>																	
08/09/2022						Administrative Update Applied											
11/03/2020						License Renewed											
10/12/2020						Renewal Reminder Letter Sent											
<a href="#">All History (27)</a>																	
<b>Special Conditions</b>																	
Refer to Locations and Frequencies Tabs for special conditions at those levels																	
None																	
<b>Attachments</b>																	

# 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.

MAIN		ADMIN		LOCATIONS		FREQUENCIES		MAP					
Call Sign				KJH202				Radio Service				PW - Public Saf	
2 Total Locations													
10 Locations per Summary Page													
SC = Special Condition TP = Termination Pending													
Location		Transmitter Address /Area of Operation						Latitude, Longitude					
1 - Fixed		1500 OFF WESTHILL RD WRFB FM SITE STOWE, VT LAMOILLE County						44-30-11.2 N, 072-41-33.4 W					
2 - Mobile		16.0 km radius around a fixed location 1											
2 Total Locations													
10 Locations per Summary Page													

# License Review (Locations Page)

<b>Location 1 (Fixed)</b>					
▸ <a href="#">Frequencies (2)</a>					
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?					
Special Conditions	None				
<b>Antenna 1</b>					
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.

MAINADMINLOCATIONS**FREQUENCIES**MAP

Call SignKJH202

2 Frequencies for all locations  
20 Frequencies per Summary Page

SC = Special ConditionTP = Termination Pending

Frequency	Loc#	Ant#	Freq ID	Station Class
<a href="#">000154.04000000</a>	<a href="#">1</a>	1	1	FB
<a href="#">000154.04000000</a>	<a href="#">2</a>	1	1	MO

2 Frequencies for all locations  
20 Frequencies per Summary Page

Radio ServicePW - Public Safety Pool, Conventional

Filter Frequencies By Location:  
All Locations

Define View: **General** | [Buildout](#) | [COSER](#) | [Emission](#) | [IRAC](#)

Units	Paging Rec.	Output Power	Maximum ERP
1	40	60.000	118.000
40		60.000	

Filter Frequencies By Location:  
All Locations

# 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: <a href="#">General</a>   <b><a href="#">Buildout</a></b>   <a href="#">COSER</a>   <a href="#">Emission</a>   <a href="#">IRAC</a>			
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	NHIA



# FCC Form 601 (Main Page 1)

Form 601 - Google Chrome

spectrumwatch.com/Auth/Form601/MainPage1.aspx?usi=204863&db=1

T24092320204863

Form 601 - Main Page 1

Status: Login

Technical Overview

Spectrum request

Main Page 1

Main Page 2

Main Page 3

Schedule H

Pricing

Application Options

Locations (0)

User Guide [Html] | [PDF]

Table View

[Antennas \(0\)](#)

[Frequencies \(0\)](#)

[Emissions \(0\)](#)

Bulk Tasks

[Bulk Add Frequency](#)

[Bulk Emission Tasks](#)

Check

[Check App Integrity](#)

Login

9/23/2024 8:28:52 PM

Tools

[Attachment \(0\)](#)

[Notes \(1\)](#)

[Print View](#)

[Check App](#)

[Status](#)

[Send Email](#)

T24092320204863 -

Save

1) Radio Service Code: N/A 1b) Existing Radio Service Code: N/A

General Information

2) Purpose: NE - New

3a) If this application is for a Developmental License, Demonstration License, or a Special Temporary Authorization (STA), enter the code and attach the required exhibit as described in the instructions. Otherwise enter 'N' (Not Applicable). ☐ D ☐ M ☐ S ☒ N/A

3b) If this application is for Special Temporary Authority due to an emergency situation, enter 'Y'; otherwise enter 'N'. Refer to Rule 1.915 for an explanation of situations considered to be an emergency. (NOTE: If not a STA, answer N/A.) ☐ Yes ☐ No ☒ N/A

4) If this application is for an Amendment or Withdrawal, enter the file number of the pending application currently on file with the FCC.

5) If this application is for a Modification, Renewal Only, Renewal/Modification, Cancellation of License, Duplicate Licensee, or Administrative Update, enter the call sign of the existing FCC license. If this is a request for Registered Location/Link, enter the FCC call sign assigned to the geographic license.

6a) If this application is for a New, Amendment, Renewal Only, or Renewal/Modification, enter the requested authorization expiration date (this item is optional).

6b) If this application is for a Renewal Only or Renewal/Modification and the license is a geographic area license, is the license used to provide service to customers (C), or is the license used for private business (internal) purposes or to meet the licensee's public interest/public safety communications needs (P)?

7) Is this application "major" as defined in §1.929 of the Commission's Rules when read in conjunction with the applicable radio service rules found in Parts 22 and 90 of the Commissions Rules? (NOTE: This question only applies to certain site-specific applications. See the instructions for applicability and full text of §1.929). ☐ Yes ☐ No ☒ N/A

8) Are attachments being filed with this application? ☐ Yes ☒ No

Fees, Waivers, and Exemptions

9) Is the applicant exempt from FCC application fees? ☐ Yes ☒ No

10) Is the applicant exempt from FCC regulatory fees? ☐ Yes ☒ No

11a) Does this application include a request for a Waiver of the Commission's rule(s)? If 'Yes', attach an exhibit providing rule number(s) and explaining circumstances. ☐ Yes ☒ No

11b) If 11a is 'Y', enter the number of rule section(s) being waived. Number of Rule Section(s):

12) Are the frequencies or parameters requested in this filing covered by grandfathered privileges, previously approved by waiver, or functionally integrated with an existing station? ☐ Yes ☐ No ☒ N/A

Icon Legend

View

Edit

AutoX

Form Field Legend

Required Form Field

Optional Form Field

Not Required Form Field

Legend

FCC

Information From FCC License


\*

Modified License Info

Pending

Information From Pending Database

[Main Page 1](#) - [Main Page 2](#) - [Main Page 3](#) - [Schedule H](#) - [Locations \(0\)](#) - [Antennas \(0\)](#) - [Frequencies \(0\)](#) - [Emissions \(0\)](#)

 **APCO**  
International  
Leaders in Public Safety Communications®

# 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)

Form 601 - Google Chrome  
spectrumwatch.com/Auth/Form601/MainPage2.aspx?usi=204863&db=1

**Applicant Information**

13) FCC Registration Number (FRN): [REDACTED]

14) Applicant/Licensee Legal Entity Type: (Select One)

<input type="radio"/> Individual	<input type="radio"/> General Partnership	<input type="radio"/> Limited Liability Corporation	<input type="radio"/> Unincorporated Association
<input type="radio"/> Limited Partnership	<input type="radio"/> Trust	<input type="radio"/> Limited Liability Partnership	<input checked="" type="radio"/> Government Entity
<input type="radio"/> Corporation	<input type="radio"/> Consortium	<input type="radio"/> Other	

Other Value: [REDACTED]

15) If the licensee name is being updated, is the update a result from the sale (or transfer of control) of the license(s) to another party and for which proper Commission approval has not been received or proper notification not provided? ☐ Yes ☒ No ☐ N/A

16) First Name: [REDACTED] MI: [REDACTED] Last Name: [REDACTED] Suffix: [REDACTED]

17) Legal Entity Name (if other than individual): [REDACTED]

18) Attention To: [REDACTED]

19) PO Box: [REDACTED] And/Or 20) Street Address: [REDACTED]

21) City: [REDACTED] 22) State: [REDACTED] 23) Zip Code: [REDACTED]

24) Telephone Number: (999) 999-9999 25) Fax: (999) 999-9999

26) E-Mail Address: [REDACTED]

**Real Party in Interest**

28) Name of Real Party in Interest of Applicant (If different from applicant): [REDACTED]

29) FCC Registration Number (FRN) of Real Party in Interest: [REDACTED]

**Contact Information (If different from applicant)**

Copy - Copy Address, Phone & Fax from Applicant Information

30) First Name: [REDACTED] MI: [REDACTED] Last Name: [REDACTED] Suffix: [REDACTED]

31) Company Name: [REDACTED]

32) Attention To: [REDACTED]

33) PO Box: [REDACTED] And/Or 34) Street Address: [REDACTED]

35) City: [REDACTED] 36) State: [REDACTED] 37) Zip Code: [REDACTED]

38) Telephone Number: (999) 999-9999 39) Fax: (999) 999-9999

**Left Sidebar:**

- Spectrum request
- Main Page 1
- Main Page 2**
- Main Page 3
- Schedule H
- Pricing
- Application Options
- Locations (0)
- User Guide [HTML] | [PDF]
- Table View**
- Antennas (0)
- Frequencies (0)
- Emissions (0)
- Bulk Tasks**
- Bulk Add Frequency
- Bulk Emission Tasks
- Check**
- Check App Integrity
- Login**
- 9/23/2024 8:28:52 PM
- Tools**
- Attachment (0)
- Notes (1)
- Print View
- Check App
- Status
- Send Email

# 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)

Form 601 - Google Chrome  
spectrumwatch.com/Auth/Form601/MainPage3.aspx?usi=204863&db=1

**Regulatory Status**

41) This filing is for authorization to provide or use the following type(s) of radio service offering (enter all that apply):

☐ Common Carrier  
☐ Non-Common Carrier  
☒ Private, Internal Communication  
☐ Broadcast Services  
☐ Band Manager

Type of Radio Service

42) This filing is for authorization to provide the following type(s) of radio service (enter all that apply):

☐ Fixed  
☒ Mobile  
☐ Radiolocation  
☐ Satellite (sound)  
☐ Broadcast Services

43) Interconnected Service? ☐ Yes ☒ No

**Alien Ownership Questions (If any answer is Yes, attach exhibit explaining circumstances.)**

44) Is the applicant a foreign government or the representative of any foreign government? ☐ Yes ☒ No

45) Is the applicant an alien or the representative of an alien? ☐ Yes ☐ No ☒ N/A

46) Is the applicant a corporation organized under the laws of any foreign government? ☐ Yes ☐ No ☒ N/A

47) Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? ☐ Yes ☐ No ☒ N/A

48a) Is the applicant directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof, or by any corporation organized under the laws of a foreign country? ☐ Yes ☐ No ☒ N/A

48b) If the answer to 47 or 48a is "Y" select one of the choices below.

☐ Exempt  
☐ Wireless  
☐ Affiliate  
☐ Petition  
☒ N/A

**Tools**

Attachment (0)  
 Notes (1)  
 Print View  
 Check App  
 Status  
 Send Email

User Guide [Html] | [PDF]  
**Table View**  
- Antennas (0)  
- Frequencies (0)  
- Emissions (0)

Bulk Tasks  
- Bulk Add Frequency  
- Bulk Emission Tasks

Check  
- Check App Integrity

Login  
9/23/2024 8:28:52 PM

# 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)

Form 601 - Google Chrome  
spectrumwatch.com/Auth/Form601/ScheduleH.aspx?usi=204863&db=1

**Eligibility**  
1) Rule Section:  2) Describe Activity:

**Frequency Coordinator (FC) Information (If not self-coordinated)**  
3) FC Number: T24092320204863 4) Frequency Coordinator: APCO 5) Phone Number: (999) 999-9999 6) Coord Date:   
7) Has this application been successfully coordinated: ☒ Yes ☐ No

**Extended Implementation (Slow Growth)**  
8) Are you requesting a new or modified extended implementation plan? If 'Yes', attach an exhibit with a justification and a proposed station construction schedule. ☐ Yes ☐ No ☒ N/A  
9) Associated Call Signs (Check to Delete)  
<No associated call sign>  
1.  2.  3.  4.  5.   
**\*\* You can add 5 call signs at a time. If you have more than 5 call signs, enter 5 and click Save and enter the next 5.**

**Broadcast Auxilliary Only**  
If there is an associated Parent Station, complete items 10-12.  
10) Facility Id of Parent Station:  11) Parent Radio Service: N/A 12) City and State of Parent Stations Principle Community:   
13) If there is no associated parent station, this applicant is a:  14) State of Primary Operation:

**Control Point(s) (Other than at the transmitter)**

15) Action	16) Control Point #	17) Location (Street Address, City/Town, State, County/Borough/Parish)	18) Phone Number
<input type="text"/>	<input type="text"/>	<input type="text"/>	(999) 999-9999
<input type="text"/>	<input type="text"/>	<input type="text"/>	(999) 999-9999
<input type="text"/>	<input type="text"/>	<input type="text"/>	(999) 999-9999
<input type="text"/>	<input type="text"/>	<input type="text"/>	(999) 999-9999
<input type="text"/>	<input type="text"/>	<input type="text"/>	(999) 999-9999
<input type="text"/>	<input type="text"/>	<input type="text"/>	(999) 999-9999
<input type="text"/>	<input type="text"/>	<input type="text"/>	(999) 999-9999

# 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)

Form 601 - Google Chrome  
spectrumwatch.com/Auth/Form601/LocEdit.aspx?usi=204863&db=1&ac=N

Main Page 2  
Main Page 3  
Schedule H  
Pricing  
Application Options  
Locations (0)  
User Guide [HTML] | [PDF]  
Table View  
Antennas (0)  
Frequencies (0)  
Emissions (0)  
Bulk Tasks  
Bulk Add Frequency  
Bulk Emission Tasks  
Check  
Check App Integrity  
Login  
9/23/2024 8:28:52 PM  
Tools  
Attachment (0)  
Notes (1)  
Print View  
Check App  
Status  
Send Email

1) Action Requested: **Add** 2) Location Number: **1**

3) Location Description: **Fixed** 4) Area of Operation Code: 5) Location Name:

6) FCC Antenna Structure Reg #: Find ASR

7) Latitude (NAD83): N S 8) Longitude (NAD83): W E

9) Street Address, Name of Landing Area, or Other Location Description:

10) City: 11) State: 12) County/Borough/Parish:

13) Elevation of Site AMSL: (a' in antenna structure example) meters Calculate 14) Overall Ht AGL Without Appurtenes: (b' in antenna structure example) meters 15) Overall Ht AGL With Appurtenes: (c' in antenna structure example) meters

16) Support Structure: \* = Values are used only to support ASR Prefill. Value must be changed to a NON-stared value before filing no matter what the ASR's structure type. Stared values will not be accepted by the FCC.

17) Loc. Number: (only for AOC 'A') 18) Radius (km): 19) Airport Identifier: 20) Site Status:

21) Maximum Latitude (NAD83): Use for rectangle only (Northwest corner) N S 22) Maximum Longitude (NAD83): Use for rectangle only (Northwest corner) W E

23) Do you propose to operate in an area that requires frequency coordination with Canada: Yes No N/A

24) Description (only for AOP code 'O'):

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. Yes No

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? Yes No

28) Do you propose to operate in an area that requires frequency coordination 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)

---Main Page 1  
---Main Page 2  
---Main Page 3  
---Schedule H  
---Pricing  
---Application Options  
---Locations (0)  
User Guide [Html] | [PDF]  
**Table View**  
[Antennas \(0\)](#)  
[Frequencies \(0\)](#)  
[Emissions \(0\)](#)  
  
Bulk Tasks  
[Bulk Add Frequency](#)  
[Bulk Emission Tasks](#)  
  
Check  
[Check App Integrity](#)  
  
Login  
9/23/2024 8:28:52 PM  
  
**Tools**  
[Attachment \(0\)](#)  
[Notes \(1\)](#)  
[Print View](#)  
[Check App](#)  
[Status](#)  
[Send Email](#)

## Advantages of Table View Antennas

- Combines easy data entry and advanced SpectrumWatch data overlay and color-coding technology
- Data overlay: View both antennas on the application and the FCC license, when specified
- Reduce errors by selecting only existing location numbers from drop down lists
- Easier modifications: For an existing antenna from the license (row in light blue), change the action to "Mod" then change the appropriate fields. Changes will be marked in light green.
- Color-coding: See the legend below for all the color-coding descriptions>
- Filter frequencies by location and antenna for easier viewing

Filter Loc:  Ant:

## All Antennas - Table View

Copy	19) Action	20) Loc #	21) Ant #	22) AAT (meters)	23) Ant Ht (meters)	24) Azimuth (deg)	25) BeamWidth	26) Polarization	27) Gain
	Add ▾	▾							

Enter a value to create a number of rows:

### Icon Legend

	View
	Edit
	AutoX

### Form Field Legend

	Required Form Field
	Optional Form Field
	Not Required Form Field

### Legend

	Information From FCC License
	Modified License Info
	Information From Pending Database

[Main Page 1](#) - [Main Page 2](#) - [Main Page 3](#) - [Schedule H](#) - [Locations \(0\)](#) - [Antennas \(0\)](#) - [Frequencies \(0\)](#) - [Emissions \(0\)](#)

[Technical Overview](#) - [Frequencies - Table View](#) - [Emissions - Table View](#)

Status: Login

Date: 9/23/2024 8:28:52 PM

# 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)

Spectrum request

Main Page 1

Main Page 2

Main Page 3

Schedule H

Pricing

Application Options

Locations (0)

User Guide [Html] | [PDF]

Table View

Antennas (0)

Frequencies (0)

Emissions (0)

Bulk Tasks

Bulk Add Frequency

Bulk Emission Tasks

Check

Check App Integrity

Login

9/23/2024 8:28:52 PM

Tools

Attachment (0)

Notes (1)

Print View

Check App

Status

Send Email

Advantages of Table View Frequencies

- Combines easy data entry and advanced SpectrumWatch data overlay and color-coding technology
- Data overlay: View both frequencies on the application and the FCC license, when specified
- Reduce errors by selecting only existing location and antenna numbers from drop down lists
- Easier modifications: For an existing freq from the license (row in light blue), change the action to "Mod" then change the appropriate fields. Changes will be marked in light green.
- Color-coding: See the legend below for all the color-coding descriptions
- No more duplicate frequency rows for multiple emissions. Click on the "# Emis" column to add/edit/delete emissions.
- Filter frequencies by location and antenna for easier viewing

Filter Loc:  Ant: 

Filter

All Frequencies - Table View

					Frequency (MHz)								
Copy	Freq Action	Loc #	Ant #	Freq #	New/Existing	New (if Mod)	Stat Class	Units	Num Paging Rcv	Out Power (watts)	ERP (watts)	# Emis	Emissions
	Add <div></div>	<div></div>	<div></div>										
	Add <div></div>	<div></div>	<div></div>										
	Add <div></div>	<div></div>	<div></div>										
	Add <div></div>	<div></div>	<div></div>										

Enter a value to create a number of rows: 

4

Add Row

Reset

Icon Legend

Form Field Legend

Legend

View

Edit

AutoX

Required Form Field

Optional Form Field

Not Required Form Field

FCC

Information From FCC License

\*

Modified License Info

Pending

Information From Pending Database

# 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 D emissions)

Spectrum request

Main Page 1

Main Page 2

Main Page 3

Schedule H

Pricing

Application Options

Locations (0)

User Guide [Html] | [PDF]

Table View

Antennas (0)

Frequencies (0)

Emissions (0)

Bulk Tasks

Bulk Add Frequency

Bulk Emission Tasks

Check

Check App Integrity

Login

11/23/2024 8:28:52 PM

Tools

Attachment (0)

Notes (1)

Print View

Advantages of Table View Emissions:

- Combines easy data entry and advanced SpectrumWatch data overlay and color-coding technology
- Data overlay: View both emissions on the application and the FCC license, when specified
- Reduce errors by selecting only existing location, antenna, & frequencies from drop down lists
- Easier modifications: For an existing emission from the license (row in light blue), change the action to "Mod" then enter the new emission code.
- Color-coding: See the legend below for all the color-coding descriptions
- Filter emissions by location, antenna, and frequency for easier viewing

Filter Loc:  Ant:  Freq: 

Filter

All Emissions - Table View (Page 1)

Copy	Emis Action	Loc #	Ant #	Freq (Action)	Class	Units	Power	ERP	New/Existing	New (if Mod)
<div></div>	Add <div></div>	<div></div>	<div></div>	<div></div>						
<div></div>	Add <div></div>	<div></div>	<div></div>	<div></div>						
<div></div>	Add <div></div>	<div></div>	<div></div>	<div></div>						
<div></div>	Add <div></div>	<div></div>	<div></div>	<div></div>						

Enter a value to create a number of rows: 

4

Add Row

Reset

Icon Legend

Form Field Legend

Legend

View

Edit

AutoX

Required Form Field

Optional Form Field

Not Required Form Field

FCC

Information From FCC License

\*

Modified License Info

Pending

Information From Pending Database

# 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.

# Frequency coordination and interference

- 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.



# Frequency coordination and interference

- 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](http://www.NRPC.us)

# Frequency coordination and interference

- 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.

# Frequency coordination and interference

- 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.

Amanda Bredstrup  
Spectrum Analysts  
386-944-2467  
[bredstrupa@apcointl.org](mailto:bredstrupa@apcointl.org)

Sponsored by

