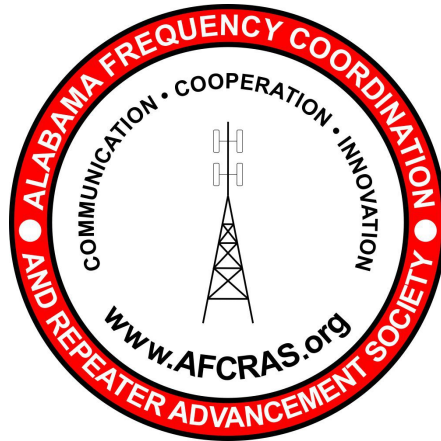


Alabama Frequency Coordination & Repeater Advancement Society



Frequency Utilization Plan: 70 cm (420-450 MHz) UHF Spectrum

*Revision 20180206a
Approved and Adopted February 13, 2018*

420-450 MHz Spectrum Utilization General Overview

420.0000 - 420.2000	Repeater Links
420.0000 - 426.0000	ATV Repeater Output (421.250 Video 425.750 Audio)
426.0000 - 432.0000	ATV Simplex (427.250 Video 431.750 Audio)
432.0000 - 433.0000	SSB & Weak Signal 432.100 National SSB Calling Frequency
433.0125 - 433.2000	Repeater Links
433.0000 - 439.0000	ATV Simplex Only (434.000 Video 438.500 Audio)
438.7750 - 439.5875	Repeater Links
439.6000 - 440.4750	FM Digital/Packet Operation
440.5125 - 440.7250	Narrow Band Digital Repeater Outputs/Duplex Backbones/Link
440.7375 - 440.9000	Simplex Cross Band Voice - Base
440.9125 - 441.1750	Simplex Digital
441.0000	National Digital Calling Frequency
441.1875 - 441.4875	Links, Control Frequencies
441.5000	Simplex Digital
441.5250 - 441.7750	Duplex Link Repeaters
441.8000 - 444.9750	FM, APCO P25, DMR, Fusion and D-Star Repeater Outputs
445.0250 - 445.4750	Digital
445.5125 - 445.7250	Digital Repeater Inputs
445.7375 - 445.9000	Simplex Cross Band Voice - Mobile
445.9125 - 446.1750	FM Simplex
446.0000	National FM Calling Frequency
446.1875 - 446.4875	Links, Control Frequencies
446.5000	Simplex Digital
446.5250 - 446.7750	Duplex Link Repeaters
446.8000 - 449.9750	FM, APCO P25, DMR, Fusion and D-Star Repeater Inputs, wideband/mixed mode digital

Voice FM Simplex Frequencies

445.9125

445.9250

445.9375

445.9500

445.9625

445.9750

445.9875

446.0000 * *National FM Voice Simplex Calling Frequency*

446.0125

446.0250

446.0375

446.0500

446.0625

446.0750

446.0875

446.1000

446.1125

446.1250

446.1375

446.1500

446.1625

446.1750

Narrow Band FM Digital, NXDN, DStar, DMR, Packet Repeater or Digital Packet/Duplex Backbone

12.5 KHz split, 5 MHz split, High input - Low output

445.5125 - 440.5125

445.5250 - 440.5250

445.5375 - 440.5375

445.5500 - 440.5500

445.5625 - 440.5625

445.5750 - 440.5750

445.5875 - 440.5875

445.6000 - 440.6000

445.6125 - 440.6125

445.6250 - 440.6250

445.6375 - 440.6375

445.6500 - 440.6500

445.6625 - 440.6625

445.6750 - 440.6750

445.6875 - 440.6875

445.7000 - 440.7000

445.7125 - 440.7125

445.7250 - 440.7250

Wide Band Digital/Packet Duplex Backbones/Links

Duplex, Mixed 50/100 KHz, 5 MHz split, High input, Low output, horizontal or vertical polarization optional

445.0250 - 440.0250
445.0500 - 440.0500
445.0750 - 440.0750
445.1000 - 440.1000
445.1250 - 440.1250
445.1500 - 440.1500
445.1750 - 440.1750
445.2000 - 440.2000
445.2250 - 440.2250
445.2500 - 440.2500
445.2750 - 440.2750
445.3000 - 440.3000
445.3250 - 440.3250
445.3500 - 440.3500
445.3750 - 440.3750
445.4000 - 440.4000
445.4250 - 440.4250
445.4500 - 440.4500
445.4750 - 440.4750

Narrow Band FM Digital, DMR, P25 (APCO25) /Packet Simplex

440.9125

440.9250

440.9375

440.9500

440.9625

440.9750

440.9875

441.0000 * *National Digital Simplex Calling Frequency*

441.0125

441.0250

441.0375

441.0500

441.0625

441.0750

441.0875

441.1000

441.1125

441.1250

441.1375

441.1500

441.1625

441.1750

Standard FM Repeaters and NXDN, Fusion, P25, DMR if mixed mode wideband FM
25 KHz spacing, 5 MHz split, High input, Low output

446.8000 - 441.8000
446.8250 - 441.8250
446.8500 - 441.8500
446.8750 - 441.8750
446.9000 - 441.9000
446.9250 - 441.9250
447.0250 - 442.0250
447.0500 - 442.0500
447.0750 - 442.0750
447.1000 - 442.1000
447.1250 - 442.1250
447.1500 - 442.1500
447.1750 - 442.1750
447.2000 - 442.2000
447.2250 - 442.2250
447.2500 - 442.2500
447.2750 - 442.2750
447.3000 - 442.3000
447.3250 - 442.3250
447.3500 - 442.3500
447.3750 - 442.3750
447.4000 - 442.4000
447.4250 - 442.4250
447.4500 - 442.4500
447.4750 - 442.4750
447.5000 - 442.5000
447.5250 - 442.5250
447.5500 - 442.5500
447.5750 - 442.5750
447.6000 - 442.6000
447.6250 - 442.6250
447.6500 - 442.6500
447.6750 - 442.6750
447.7000 - 442.7000
447.7250 - 442.7250
447.7500 - 442.7500
447.7750 - 442.7750
447.8000 - 442.8000
447.8250 - 442.8250
447.8500 - 442.8500
447.8750 - 442.8750
447.9000 - 442.9000
447.9250 - 442.9250
447.9500 - 442.9500
447.9750 - 442.9750
448.0000 - 443.0000
448.0250 - 443.0250
448.0500 - 443.0500
448.0750 - 443.0750
448.1000 - 443.1000
448.1250 - 443.1250
448.1500 - 443.1500
448.1750 - 443.1750
448.2000 - 443.2000
448.2250 - 443.2250

448.2500 - 443.2500
448.2750 - 443.2750
448.3000 - 443.3000
448.3250 - 443.3250
448.3500 - 443.3500
448.3750 - 443.3750
448.4000 - 443.4000
448.4250 - 443.4250
448.4500 - 443.4500
448.4750 - 448.4750
448.5000 - 443.5000
448.5250 - 443.5250
448.5500 - 443.5500
448.5750 - 443.5750
448.6000 - 443.6000
448.6250 - 443.6250
448.6500 - 443.6500
448.6750 - 443.6750
448.7000 - 443.7000
448.7250 - 443.7250
448.7500 - 443.7500
448.7750 - 443.7750
448.8000 - 443.8000
448.8250 - 443.8250
448.8500 - 443.8500
448.8750 - 443.8750
448.9000 - 443.9000
448.9250 - 443.9250
448.9500 - 443.9500
448.9750 - 443.9750
449.0000 - 444.0000
449.0250 - 444.0250
449.0500 - 444.0500
449.0750 - 444.0750
449.1000 - 444.1000
449.1250 - 444.1250
449.1500 - 444.1500
449.1750 - 444.1750
449.2000 - 444.2000
449.2250 - 444.2250
449.2500 - 444.2500
449.2750 - 444.2750
449.3000 - 444.3000
449.3250 - 444.3250
449.3500 - 444.3500
449.3750 - 444.3750
449.4000 - 444.4000
449.4250 - 444.4250
449.4500 - 444.4500
449.4750 - 444.4750
449.5000 - 444.5000
449.5250 - 444.5250
449.5500 - 444.5500
449.5750 - 444.5750
449.6000 - 444.6000
449.6250 - 444.6250
449.6500 - 444.6500
449.6750 - 444.6750
449.7000 - 444.7000

449.7250 - 444.7250
449.7500 - 444.7500
449.7750 - 444.7750
449.8000 - 444.8000
449.8250 - 444.8250
449.8500 - 444.8500
449.8750 - 444.8750
449.9000 - 444.9000
449.9250 - 444.9250
449.9500 - 444.9500
449.9750 - 444.9750

These pairs are available for the coordination and assignment of analog FM and digital mixed mode repeaters. Their coordination and assignment is determined using nominal FM coordination guidelines and other considerations, and pertinent to co-channel and adjacent channel assignment considerations.

APCO P25 DMR D-Star NXDN Repeaters

25 KHz spacing, 5 MHz split, High input, Low output

446.8125 - 441.8125
446.8875 - 441.8875
446.9625 - 441.9625
447.0375 - 442.0375
447.1125 - 442.1125
447.1875 - 442.1875
447.2625 - 442.2625
447.3375 - 442.3375
447.4125 - 442.4125
447.4875 - 442.4875
447.5625 - 442.5625
446.8375 - 441.8375
446.9125 - 441.9125
446.9875 - 441.9875
447.0625 - 442.0625
447.1375 - 442.1375
447.2125 - 442.2125
447.2875 - 442.2875
447.3625 - 442.3625
447.4375 - 442.4375
447.5125 - 442.5125
447.5875 - 442.5875
446.8625 - 441.8625
446.9375 - 441.9375
447.0125 - 442.0125
447.0875 - 442.0875
447.1625 - 442.1625
447.2375 - 442.2375
447.3125 - 442.3125
447.3875 - 442.3875
447.4625 - 442.4625
447.5375 - 442.5375
447.6125 - 442.6125
447.6375 - 442.6375
447.6625 - 442.6625
447.6875 - 442.6875
447.7125 - 442.7125
447.7375 - 442.7375
447.7625 - 442.7625
447.7875 - 442.7875
447.8125 - 442.8125
447.8375 - 442.8375
447.8625 - 442.8625
447.8875 - 442.8875
447.9125 - 442.9125
447.9375 - 442.9375
447.9625 - 442.9625
447.9875 - 442.9875
448.0125 - 443.0125
448.0375 - 443.0375
448.0625 - 443.0625
448.0875 - 443.0875
448.1125 - 443.1125
448.1375 - 443.1375
448.1625 - 443.1625

448.1875 - 443.1875
448.2125 - 443.2125
448.2375 - 443.2375
448.2625 - 443.2625
448.2875 - 443.2875
448.3125 - 443.3125
448.3375 - 443.3375
448.3625 - 443.3625
448.3875 - 443.3875
448.4125 - 443.4125
448.4375 - 443.4375
448.4625 - 443.4625
448.4875 - 443.4875
448.5125 - 443.5125
448.5375 - 443.5375
448.5625 - 443.5625
448.5875 - 443.5875
448.6125 - 443.6125
448.6375 - 443.6375
448.6625 - 443.6625
448.6875 - 443.6875
448.7125 - 443.7125
448.7375 - 443.7375
448.7625 - 443.7625
448.7875 - 443.7875
448.8125 - 443.8125
448.8375 - 443.8375
448.8625 - 443.8625
448.8875 - 443.8875
448.9125 - 443.9125
448.9375 - 443.9375
448.9625 - 443.9625
448.9875 - 443.9875
449.0125 - 444.0125
449.0375 - 444.0375
449.0625 - 444.0625
449.0875 - 444.0875
449.1125 - 444.1125
449.1375 - 444.1375
449.1625 - 444.1625
449.1875 - 444.1875
449.2125 - 444.2125
449.2375 - 444.2375
449.2625 - 444.2625
449.2875 - 444.2875
449.3125 - 444.3125
449.3375 - 444.3375
449.3625 - 444.3625
449.3875 - 444.3875
449.4125 - 444.4125
449.4375 - 444.4375
449.4625 - 444.4625
449.4875 - 444.4875
449.5125 - 444.5125
449.5375 - 444.5375
449.5625 - 444.5625
449.5875 - 444.5875
449.6125 - 444.6125
449.6375 - 444.6375

449.6625 - 444.6625
449.6875 - 444.6875
449.7125 - 444.7125
449.7375 - 444.7375
449.7625 - 444.7625
449.7875 - 444.7875
449.8125 - 444.8125
449.8375 - 444.8375
449.8625 - 444.8625
449.8875 - 444.8875
449.9125 - 444.9125
449.9375 - 444.9375
449.9625 - 444.9625
449.9875 - 444.9875

These interleaved pairs are exclusively available for the coordination and assignment of APCO P25 DMR, NXDN and D-Star digital voice technology (DVT) repeaters. Their coordination and assignment is determined using nominal FM coordination guidelines and other considerations relating to the narrow bandwidth signals of DVT and those pertinent to co-channel and adjacent channel assignment.

FM Itinerant Voice Repeaters

25 KHz spacing between channels, 5 MHz split, High input, Low output

445.750 - 440.750

445.800 - 440.800

Reserved for itinerant and short term use during a special event or emergency with no formal coordination required. Trustees/Owners are encouraged to notify their local coordinator to inform them of system parameters and expected duration of use.

FM Cross Band Repeat Simplex (NBFM)

*Channels for **Fixed** Stations ONLY, Fixed Simplex Cross Band Repeat*

440.7375

440.7625

440.7750

440.7875

440.8125

440.8250

440.8375

440.8500

440.8625

440.8750

440.8875

440.9000

*Channels for **Mobile** Stations ONLY, for Mobile Simplex Cross Band Repeat*

445.7375

445.7625

445.7750

445.7875

445.8125

445.8250

445.8375

445.8500

445.8625

445.8750

445.8875

445.9000

Link & Control Channels (Narrow Band FM)

May be paired on "440", or individually paired with 222 MHz band fixed link frequencies.

These may be individually coordinated. Some may be coordinated as simplex remote base or remote control systems.

446.1875 - 441.1875
446.2000 - 441.2000
446.2125 - 441.2125
446.2250 - 441.2250
446.2375 - 441.2375
446.2500 - 441.2500
446.2625 - 441.2625
446.2750 - 441.2750
446.2875 - 441.2875
446.3000 - 441.3000
446.3125 - 441.3125
446.3250 - 441.3250
446.3375 - 441.3375
446.3500 - 441.3500
446.3625 - 441.3625
446.3750 - 441.3750
446.3875 - 441.3875
446.4000 - 441.4000
446.4125 - 441.4125
446.4250 - 441.4250
446.4375 - 441.4375
446.4500 - 441.4500
446.4625 - 441.4625
446.4750 - 441.4750
446.4875 - 441.4875

Duplex "Hub" Linking Repeaters

25 KHz spacing, 5 MHz split, High input, Low output, maximum 100w ERP.

446.525 - 441.525
446.550 - 441.550
446.575 - 441.575
446.600 - 441.600
446.625 - 441.625
446.650 - 441.650
446.675 - 441.675
446.700 - 441.700
446.725 - 441.725
446.750 - 441.750
446.775 - 441.775

Link Channels (Narrow Band FM)

These link channels share designated ATV Bandwidths using horizontal antenna polarity. Frequencies will be coordinated with a maximum 25 watts ERP and directional antenna systems.

420.0125
420.0250
420.0375
420.0500
420.0625
420.0750
420.0875
420.1000
420.1125
420.1250
420.1375
420.1500
420.1625
420.1750
420.1875
420.2000
433.0125
433.0250
433.0375
433.0500
433.0625
433.0750
433.0875
433.1000
433.1125
433.1250
433.1375
433.1500
433.1625
433.1750
433.1875
433.2000
438.7750
438.7875
438.8000
438.8125
438.8250
438.8375
438.8500
438.8625
438.8750
438.8875
438.9000
438.9125
438.9250
438.9375
438.9500
438.9625
438.9750
438.9875
439.0000*
439.0125*
439.0250*

439.0375*
439.0500*
439.0625*
439.0750*
439.0875*
439.1000*
439.1125*
439.1250*
439.1375*
439.1500*
439.1625*
439.1750*
439.1875*
439.2000*
439.2125*
439.2250*
439.2375*
439.2500*
439.2625*
439.2750*
439.2875*
439.3000*
439.3125*
439.3250*
439.3375*
439.3500*
439.3625*
439.3750*
439.3875*
439.4000*
439.4125*
439.4250*
439.4375*
439.4500*
439.4625*
439.4750*
439.4875*
439.5000*
439.5125*
439.5250*
439.5375*
439.5500*
439.5625*
439.5750*
439.5875*

Note: * Link frequencies above 439 MHz may use vertical polarity at the coordinator's discretion