



# Part 90 Narrowbanding Transition

## TCB Workshop

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# Public Safety

## 470-512 MHz Band (T-Band)

- HR 3630 – Middle Class Tax Relief and Job Creation Act of 2012
  - Reallocate 470-512 Public Safety band within the next 9 years
  - Spectrum currently shared with UHF TV14-20
- T-Band Waiver (470-512 MHz)

[http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-12-642A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-12-642A1.pdf)

- Migration to 12.5 kHz BW requirement is waived
- Currently only Class II permissive changes (C2PC) can be used for equipment authorization to enable use of 25 kHz BW



# Narrowbanding § 90.203(j) 150-174 MHz and 421-470 MHz

- Reference KDB Publication 579009
  - § 90.203(j)(3) and § 90.203(j)(4) do not specify modulation type or make distinctions between analog or digital modulation.
  - The term “narrowbanding” is defined as 12.5 kHz BW and/or 6.25 kHz BW spectral efficiencies, as specified in each section
  - Waiver of 6.25 kHz BW Requirements
    - Jan 1, 2011 interim requirements for 6.25 kHz mode waived until Jan. 1, 2013 (FCC 10-119)
- [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-10-119A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-119A1.pdf)



# Narrowbanding § 90.203(j) 150-174 MHz and 421-470 MHz

- § 90.203(j)(3) to 90.203(j)(5) apply to frequencies in the 150.8 -162.0125 MHz, 173.2 -173.4 MHz, and 421- 512 MHz bands
- The 150.05 -150.8 MHz, 162-174 MHz, and 406.1- 420 MHz bands must meet the narrowbanding provisions of § 90.265
- Grant Maximum BWs – Authorized BW

Channel BW	Authorized BW
25 kHz	20 kHz
12.5 kHz	11.25 kHz
6.25 kHz	6 kHz



# 150 -174 MHz and 421- 470 MHz Single Mode Devices

Grant Channel BW(s):	Pre- transition date (Jan 1, 2013)		Post-transition Date (Jan 1, 2013)	
	<i>Voice</i>	<i>Data</i> (Power > 500 mW)	<i>Voice</i>	<i>Data</i> (Power > 500 mW)
<b>Single-mode</b>	§ 90.203(j)(3)		§ 90.203(j)(5)	
25 kHz	One voice channel per 12.5 kHz BW	Minimum data rate of 4800 bps/6.25 kHz BW	One voice channel per 6.25 kHz BW	Minimum data rate of 4800 bps/6.25 kHz BW
12.5 kHz	No restrictions	Minimum data rate of 4800 bps/6.25 kHz BW	One voice channel per 6.25 kHz BW	Minimum data rate of 4800 bps/6.25 kHz BW
6.25 kHz	No restrictions	No restrictions	No restrictions	No restrictions



# 150 -174 MHz and 421- 470 MHz Multi-Mode Devices

Grant Channel BW(s):	Pre- transition date (Jan 1, 2013)		Post-transition Date (Jan 1, 2013)	
	<i>Voice</i>	<i>Data</i> (Power > 500 mW)	<i>Voice</i>	<i>Data</i> (Power > 500 mW)
<b>Multi-mode</b>	No restrictions for 6.25 kHz BW		No restrictions for 6.25 kHz BW	
25/6.25 kHz	§ 90.203(j)(3)		§ 90.203(j)(4)(ii)	
	One voice channel per 12.5 kHz BW	Minimum data rate of 4800 bps/6.25 kHz BW	One voice channel per 6.25 kHz BW	Minimum data rate of 4800 bps/6.25 kHz BW
12.5/6.25 kHz	§ 90.203(j)(3)		§ 90.203(j)(4)(iii)	
	One voice channel per 12.5 kHz BW	Minimum data rate of 4800 bps/6.25 kHz BW	One voice channel per 6.25 kHz BW	Minimum data rate of 4800 bps/6.25 kHz BW
25/12.5/6.25 kHz	§ 90.203(j)(3)		§ 90.203(j)(4)(ii) and § 90.203(j)(4)(iii)	
	One voice channel per 12.5 kHz BW	Minimum data rate of 4800 bps/6.25 kHz BW	One voice channel per 6.25 kHz BW	Minimum data rate of 4800 bps/6.25 kHz BW



# Part 97 Amateur Bands

## 420- 450 MHz (70 cm Amateur)

- Part 97 – equipment authorization not required for amateur only equipment
- Dual use radios (Part 90 and Part 97)
  - Amateur radio shares the 421- 430 MHz PLMR band on a secondary basis
  - Certification required
- Parts 90/97 dual use radios: 421- 430 MHz band
  - Must meet the narrowbanding spectral efficiency requirements
- 430 - 450 MHz Part 90 (12.5 kHz BW or less) can be listed in accordance to extended Grant frequency provisions (KDB Publication 634817)
  - This band not available for PLMR licensing [§ 90.173(j)]



# TETRA

## 450 - 470 MHz

- Operations using equipment designed to operate with a 25 kHz channel BW may be authorized up to a 22 kHz BW if the equipment meets the Adjacent Channel Power limits of § 90.221.
- Waiver - DA 11-1604 (Order on Clarification)  
[http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DA-11-1604A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-11-1604A1.pdf)
- Report and Order – FCC 12-114 (Becomes effective November 9, 2012)  
[http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2012/db0921/FCC-12-114A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0921/FCC-12-114A1.pdf)



# Part 90 Form 731 Line Entry Issues

- Currently system limits maximum BW to 11K3 from 150-174 and 450-512 MHz with the following exceptions:
  - If frequency is 470-512 MHz when rule part is 90.203(j)(4,5,7,or 8) allow 20K0
  - If rule part is 90.217 allow 20K0
  - If rule part is 90.265(b) allow 54K0
- Changes pending in near future to adjust system compliance with rules:
  - Limit max BW to 11K3 from 150-174 and 421-512 MHz
  - Allow Class II changes in 470-512MHz band to 20K0
    - No class II changes to add wideband if grant issued after 4/26/2012
  - If frequency is 150 -174 or 421 - 512 MHz when rule part is 90.203(j)(4,5,7,or 8) allow 20K0
  - Allow 20K0 if rule part is 90.217 (no change from current)
  - Allow 54K0 if rule part is 90.265(b) (no change from current)



# Part 90 Line Entry Issues (cont)

- Line Entry Exceptions handled manually
  - Until changes on previous slide are implemented any incorrect blocks by system are manually implemented
  - TETRA Waiver
  - City of Lewiston Waiver
  - Recon Robotics Waiver
- Exception Procedure
  - Complete form 731 with bandwidth the system will allow
  - File a KDB identifying FCCID and Confirmation number and specify each line entry that needs FCC correction and exactly what the correction is
- Other potential considerations
  - January 1, 2013 narrowband requirement deadlines
  - Petitions for reconsideration may be filed



# Questions and Answers

**Thanks!**