

The FCC's Narrowbanding Mandate – Why, When and How?



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About EWA

- National membership association (1953)
- FCC-certified frequency advisory committee
 - Jurisdiction within the 150-174, 450-470, 470-512, 800 and 900 MHz Industrial/Business radio bands
 - 8,000 plus spectrum transactions annually
 - Spectrum research, evaluation and certification
- FCC license application preparation
 - Accuracy, completeness and rules compliance
 - License management
 - 5,000 plus transactions annually (public safety too!)
- National regulatory advocacy
- Visit www.enterprisewireless.org



Why Narrowbanding?

- Land mobile radio spectrum is a limited resource
- Device technology improvements promote spectrum efficiency through greater voice/data capacity
- FCC initiates narrowbanding proceeding in 1992, rules defined in WT Docket No. 99-87
- Opportunity for additional land mobile spectrum allocations remote (1993 FCC receives auction authority)
- Applicable to 150-512 MHz systems only
- Applicable to both I/B and PS licensees
- Visit www.fcc.gov/narrowbanding



Narrowbanding Rules

Effective January 1, 2011

- The FCC ceases to accept VHF/UHF applications for new 25 kHz wideband operations
- The FCC ceases to accept applications that expand the authorized contour of existing 25 kHz wideband systems
- All new equipment submitted for FCC type-acceptance must specify 6.25 kHz capability or an equivalent technology

Narrowbanding Rules

Effective January 1, 2013

- All I/B and PS licensees must operate at 12.5 kHz (11.25 kHz occupied bandwidth) or narrower channels, or
- Employ a technology that achieves the narrowband equivalent of at least one channel per 12.5 kHz of channel bandwidth for voice and transmission rates of at least 4800 bits per second per 6.25 kHz for data systems operating with bandwidths greater than 12.5 kHz (narrowband-equivalent technology)

Narrowbanding Rules

Effective January 1, 2013

- Equipment manufacturers may no longer manufacture and import previously certified equipment that includes a 25 kHz mode
- 25 kHz equipment modes must be disabled

Critical Recommendations

Step 1 – *Locate your FCC license* and review for FCC narrowbanding compliance ... if the emission designator starts with either a 4, 7, 8 or 11, the license is compliant with the FCC's narrowbanding mandate. If the emission designator starts with either a 16 or a 20, the license is not compliant with the FCC's narrowbanding mandate!

Critical Recommendations

Step 2 – ensure that you *have a business relationship with a local and reputable “wireless sales and/or service provider”* that understands the narrowbanding mandate, understands your wireless system operational requirements and has the professional resources as their disposal in order to reprogram and/or replace equipment as necessary on or before January 1, 2013 (perhaps a “Certified Service Center”)

Critical Recommendations

Step 3 – *Conduct a thorough inventory of all of your equipment* – model numbers, number of installed mobiles, portables, base stations, repeaters, antennas, etc. – to determine the scope of the system reprogramming and/or equipment replacement hurdle.

Normally, equipment purchased after 1997 may be reprogrammed to be 12.5 kHz narrowband compliant, but equipment purchased before 1997 probably needs to be replaced!

Provide make and model numbers to your wireless sales/service provider – they will know.



Critical Recommendations

Step 4 – This is a perfect opportunity to *review system requirements*, specifically system capacity, coverage and private wireless system feature capabilities that are available today. Since licenses may need to be updated to reflect narrowband compliance, other license modifications can be made to accommodate a wide array of other productivity and safety producing applications such as messaging, vehicle location, etc.

Critical Recommendations

Step 5 – In conjunction with your wireless sales and service provider, *establish an optimum migration plan (and budget)* to accomplish necessary compliance and system enhancement goals. Systems that require 10 wireless devices to be reprogrammed or replaced will be far easier than systems with more than 100 wireless devices, perhaps some of which cannot be “out-of-service” other than on off-hours or weekends.

Critical Recommendations

Step 6 – *Contact/consult with EWA for spectrum and licensing strategies*, which may include current license reviews for narrowbanding applicability, and VHF/UHF spectrum analyses to identify optimum new shared or exclusive channels necessary to accommodate system expansion, migration to digital technologies and/or trunked system objectives. It is recommended that license applications be prepared and filed with the FCC prior to December 31, 2012. Simple 25 kHz to 12.5 kHz analog system license modifications do not require frequency coordination nor FCC filing fees.



Critical Recommendations

Step 7 – *Don't wait* to initiate this process as there is less than one year remaining to comply, and it is critical that you have secured and have in place professional resources to enable compliance with this long standing FCC narrowbanding mandate. *Contact EWA if you have any questions*, and all questions are relevant.

Compliant Emission Designators

- Narrowbanding compliance is reflected on licensees by the emission designator
- Changing or adding a new emission designator DOES NOT also require a frequency change
- Virtually all compliant narrowband systems will be operating on either 6.25 (UHF), 7.5 (VHF), or 12.5 (UHF) FCC authorized channel bandwidths (and center frequencies) after January 1, 2013
- The FCC does permit non-standard pairing at UHF under certain circumstances



Compliant Emission Designators

- Private land mobile device manufacturers offer a variety of analog and digital narrowband equipment.
- A sample of type-accepted equipment emission designators include:

4K00F1E - Voice

4K00F1D - Data

4K00F7W - Voice/Data

7K60FXE - Voice

7K60FXD - Data

7K60FXW - Voice

8K30F1E - Voice

8K30F1D - Data

8K30F7W - Voice/Data

11K0F3E - Voice



Frequently Asked Questions

- **What happens if we don't move to narrowband operation?**

Answer - Your license will be in violation of the FCC Rules which could subject you to FCC enforcement actions including fines, admonishment or loss of system investments.

- **Do we have to convert to digital when we change to narrowband operation?**

Answer - There is no requirement to use a digital technology when systems migrate to narrowband.



Frequently Asked Questions

- **Will we have more spectrum after we move to narrowband operation?**

Answer - No, you will still be licensed on your original channels, but the system will occupy only 11 kHz of spectrum or less.

- **Is there a date that we may have to narrowband to 6.25 kHz emission?**

Answer - The FCC has not determined a specific date to migrate to 6.25 kHz.

- **What does EWA charge for its narrowbanding compliance service?**

Answer - Depends on project scope.



Frequently Asked Questions

- **If we are on 25 kHz, will we receive interference from narrowband licensees?**

Answer - There is a chance of both co-channel and adjacent channel interference from narrowband systems.

- **Is narrowband designed to provide more spectrum to Public Safety?**

Answer - Narrowbanding is intended to ensure more efficient use of the spectrum for both I/B and PS users.

- **Are narrowband radios expensive?**

Answer - Customer choice dictates and reprogramming costs are less than new devices.

Frequently Asked Questions

- **Will the FCC grant a waivers of the narrowbanding deadline?**

Answer - Maybe, but under very special conditions.

- **What are the conditions?**

Answer – That narrowbanding has been initiated, there are extensive system expansion plans, multi-year budget funding sources (PS) are necessary, or there are plans to migrate to alternative bands (700, 800 or 900 MHz).

Frequently Asked Questions

➤ **Are there additional requirements for a waiver?**

Answer - Yes, licensees should provide progress to date, anticipated dates of commencement and completion, that they have worked diligently and in good faith, the circumstances that would warrant an extension, and the amount of time for which the waiver is requested.

➤ **When should we file the waiver?**

Answer – Now.

Frequently Asked Questions

- **What are the potential enforcement consequences for failing to narrowband by January 1, 2013?**

Answer - Absent receipt of a waiver, licenses may be subject to an admonishment, license revocation, and/or monetary forfeiture of up to \$16,000 for each such violation or each day of a continuing violation up to \$112,500 for any single act or failure to act.

Questions or comments?

Please visit EWA at either
www.enterprisewireless.org

Or call
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