FCC Narrowband Mandate

Frequently Asked Questions

Go Beyond Normal Limits...™

RITRON® WIRELESS SOLUTIONS

More ▼

FCC Narrowband Mandate

Frequently Asked Questions

Go Beyond Normal Limits...™

RITRON® WIRELESS SOLUTIONS

▲ Return to Top

FCC Narrowband Mandate

Frequently Asked Questions

What is Narrowbanding?

According to the FCC website:

"Narrowbanding is an effort to ensure more efficient use of the VHF and UHF spectrum by requiring all VHF and UHF Public Safety and Industrial/Business land mobile radio (LMR) systems to migrate to at least 12.5 kHz efficiency technology by Jan. 1, 2013.

More specifically, all existing Part 90 radio systems operating in the 150-174 MHz and 421-512 MHz bands have until Jan. 1, 2013 to convert those systems either to a maximum bandwidth of 12.5 kHz or to a technology that provides at least one voice path per 12.5 kHz of bandwidth or equivalent efficiency."

FCC VHF/UHF Narrowbanding FAQs

What frequency bands are impacted?

Land mobile radio (also known as Part 90) systems operating at 25 kHz efficiency in the following bands:

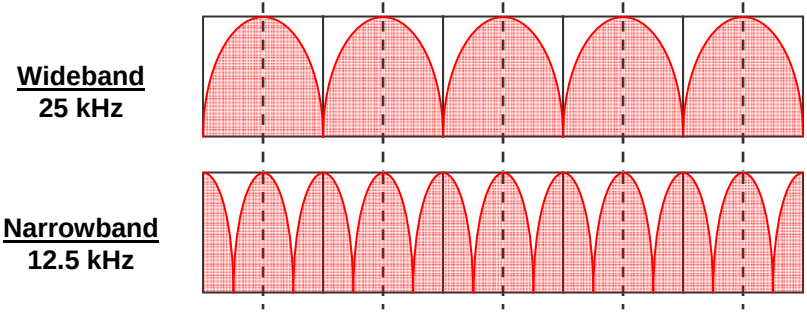
- VHF: 150 – 174 MHz
- UHF: 421 – 512 MHz

Low band radio systems operating below 150 MHz are not affected.

▲ Return to Top

What is spectrum efficiency and equivalent efficiency?

Currently, the majority of UHF and VHF LMR licensees operate using 25 kHz efficiency technology. However, the UHF and VHF frequency bands are congested with limited spectrum available for system expansion or implementation of new systems. The migration to 12.5 kHz efficiency technology will require licensees to operate more efficiently, either on narrower channel bandwidths or increased voice paths on existing channels. This will allow creation of additional channels within the same spectrum, thereby supporting more users.



The FCC does not mandate channel width, but rather spectrum efficiency. FCC rules require 12.5 kHz or equivalent efficiency. Any of the following meet the 12.5 kHz equivalent efficiency requirement:

- One voice path in a 12.5 kHz channel
- Two voice paths in a 25 kHz channel
- Data rates of 4.8 kbps per 6.25 kHz channel, such as 9.6 kbps per 12.5 kHz and 19.2 kbps per 25 kHz channel

▲ Return to Top

FCC Narrowband Mandate

Frequently Asked Questions

What do I need to do between now and January 1, 2013?

After January 1, 2011, users who applied for a new license or modify their existing license were required to specify 12.5 kHz efficiency. Manufacturers were no longer able to certify equipment capable of operating at 25 kHz efficiency after January 1, 2011. However, per an FCC Order released June 30, 2010, manufacturers have been able to manufacture, import, and market equipment previously certified for operation at 25 kHz efficiency until January 1, 2013. This has allowed you to purchase additional or replacement radios until you migrate to 12.5 kHz efficiency by that date, as mandated by the FCC.

- By January 1, 2013 all licensees must convert to and operate in at least 12.5 kHz efficiency.
- By January 1, 2013 you must ensure that the 25 kHz mode is disabled via software on your dual mode 25/12.5 kHz radios.
- By January 1, 2013 you must replace all radios that are only capable of operating at 25 kHz efficiency.
- Check your FCC license "Emission Designator". For voice channels, If the first two numbers are 12 or GREATER you will be required to submit FCC Form 601 to modify your license to reflect 12.5 kHz narrowband compliance.

  Public Notice DA 09-2589 states that stations authorized for both wideband and narrowband emissions will initially be presumed after 1/1/13 to be operating only in narrowband mode, with no action required of the licensee. Licensees of stations authorized only for wideband emissions (first two numbers of the Emission Designator greater than 12) will be required to certify that the station meets the narrowbanding requirements (i.e., that it uses narrowband-equivalent equipment), but doesn't say when the certification requirement will be implemented.

▲ Return to Top

FCC Narrowband Mandate

Frequently Asked Questions

Can I continue to operate at 25 kHz efficiency after January 1, 2013?

No.

The FCC will prohibit licensees from operating 25 kHz efficiency equipment on a secondary basis. Non-compliance will be considered a violation subject to FCC Enforcement Bureau action, which may include admonishment, monetary fines and loss of license. There are NO exclusions for "Rural" systems, "Small" systems, "Safety" systems or systems by any other special name. ONLY a very few, specifically designated "paging-only" channels are exempt.

Will Ritron continue to produce 25 kHz wideband capable radios?

No.

After January 1, 2013, the FCC will no longer allow manufacturing or importation of equipment that includes a 25 kHz mode. To efficiently meet that deadline, Ritron will begin the transition to 12.5 kHz “Narrowband Only” capability in July 2012. At that time you will begin to see a new generation of Ritron radios that do not have 25 kHz wideband capability.

How do I know if my existing Ritron radio equipment is 12.5 kHz capable?

All Ritron radio equipment certified by the FCC since June 24, 1996 is 12.5 kHz efficiency capable. You can review a list of Ritron 12.5 kHz capable products at http://www.ritron.com/pdf/Ritron_products_NB.pdf

▲ Return to Top

FCC Narrowband Mandate

Frequently Asked Questions

Go Beyond Normal Limits...™

RITRON® WIRELESS SOLUTIONS

How can I tell if my existing Ritron radio is currently set for 12.5 kHz narrowband operation?

Traditionally, most Ritron radio equipment has been set by default to wideband operation when it left the factory. Your Ritron representative will be able determine your current radio programming using a Ritron PC Programmer. If your radio was field (PTT) programmed to a table frequency, or has never been re-programmed since the date of purchase, the chances are high it is set for wideband operation and will require re-programming by a Ritron representative.

How can I upgrade my existing 12.5 kHz capable equipment?

Existing Ritron PC Programmers can reprogram your radios to operate at 12.5 kHz narrowband efficiency. Beginning in July 2012, updated PC programmers will be available that provide a “Narrowband Update” option to quickly and easily update your Ritron radio for full narrowband compliance. Contact your Ritron representative if programming assistance is required.

Can I update my existing radio that has been field (PTT) programmed to a table frequency?

For a limited number of table frequencies a narrowband equivalent is already available in the table. Generally speaking, the associated Ritron PC Programmer will be required to update your table frequency radios.

The updated Ritron PC Programmers (available beginning in July 2012) will not only update your channel programming, but will also update the table frequencies for narrowband operation, assuring that future field programming will be narrowband compliant.

▲ Return to Top

FCC Narrowband Mandate

Frequently Asked Questions

Go Beyond Normal Limits...™

RITRON® WIRELESS SOLUTIONS

Can Ritron update my 12.5 kHz narrowband capable radio for me?

Yes.

First review the list of Ritron products at http://www.ritron.com/pdf/Ritron_products_NB.pdf to see if your radio is 12.5 kHz capable. If so, contact Ritron at 1-800-872-1872, or email our Customer Service department at feed_back@ritron.com for details about our Narrowband Update service.

Does Narrowbanding require me to change frequencies or obtain new channels?

No.

Narrowbanding does not require moving to another frequency band or different channels. Licensees stay on the same channel center(s), but reduce the bandwidth of the channel(s) currently used, from 25 kHz to 12.5 kHz and change the emission designator on the license. Alternatively, licensees stay on the same 25 kHz channel but implement a 12.5 kHz equivalent technology on that channel.

If I currently have a license for a 25 kHz channel, will I now be entitled to license two 12.5 kHz channels?

No.

Your 12.5 kHz channel will remain on the same 25 kHz channel center, it is not split into two 12.5 kHz channels.

▲ Return to Top

FCC Narrowband Mandate

Frequently Asked Questions

Will migration to 12.5 kHz change my system coverage area?

Possibly.

You will need to conduct tests during the conversion process to verify that your system continues to provide equivalent coverage.

Will 12.5 kHz narrowband radios work with my existing 25 kHz radios?

When a 12.5 kHz narrowband radio talks to an existing 25 kHz wideband radio the audio level will be approximately ½ of the expected level. Conversely, when an existing 25 kHz wideband radio talks to a 12.5 kHz narrowband radio the audio level will be loud and possibly distorted.

How can I determine if I have a valid FCC license?

Contact your preferred certified frequency coordinator or Ritron representative. Refer to the FCC website for listing of frequency coordinators at: FCC Wireless Telecommunications Bureau

http://wireless.fcc.gov/services/index.htm?job=service_home&id=industrial_business and

http://www.fcc.gov/pshs/public-safety-spectrum/coord.html

▲ Return to Top

FCC Narrowband Mandate

Frequently Asked Questions

Has the FCC established a schedule for mandatory migration to 6.25 kHz efficiency?

No.

The FCC has not set any date by which licensees must operate in 6.25 kHz efficiency. The current mandate only requires users to migrate to 12.5 kHz efficiency by January 1. 2013. Based on the 12.5 kHz migration time line, we believe that any potential future FCC decision to require users to migrate to 6.25 kHz efficiency will take a considerable number of years.

Is Narrowbanding required in Canada?

Licensees operating in Canada are not subject to the FCC rules, but instead are regulated by Industry Canada, which also set Narrowbanding requirements for all VHF and UHF land mobile radio equipment.

Similar to the U.S., all radios certified after February 1997 were required to include 12.5 kHz efficiency. Industry Canada licensees must employ 12.5 kHz efficiency in the spectrum congested urban areas, and as of January 1, 2004, all existing 25 kHz efficiency systems are considered “non-standard” in those spectrum congested areas. Industry Canada however, excluded the less populated areas from required Narrowbanding, and has not been consistent in enforcing these rules in the urban areas. Licensees should contact their Regional Industry Canada office for Narrowbanding requirements in their area.

▲ Return to Top

FCC Narrowband Mandate

Frequently Asked Questions

Are MURS frequencies subject to 12.5 kHz narrowbanding?

MURS frequencies are not regulated by FCC Part 90 and are not subjected to the FCC Narrowband Mandate. Multi-Use Radio Service (MURS) is regulated under Part 95, Subpart J and 95.632. Under those rules, 151.820 MHz, 151.880 MHz and 151.940 MHz are authorized for 12.5 kHz channels and 154.570 MHz and 154.600 MHz are authorized for 25 kHz channels.

Ritron VHF MURS certified radios will continue to allow wideband programming on 154.570 MHz and 154.600 MHz as allowed by FCC rule.

Additional Resources

Questions and Answers on Re-farming Part 90 Frequencies

http://www.fcc.gov/narrowbanding

FCC Narrowbanding Mandate – A Public Safety Guide for Compliance

Narrowband.us – Countdown to the Narrowbanding Deadline

▲ Return to Top