

# FCC Part 90 Narrowband Compliance

## FACT SHEET

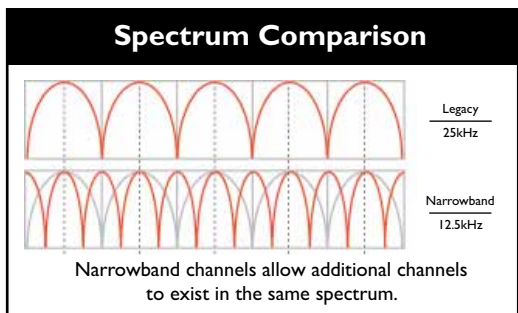
### Operating 25 kHz radio systems? Get prepared for 12.5 kHz narrowband compliance.

In an effort to increase adoption of spectrum efficient technologies on certain Part 90 frequencies, the Federal Communications Commission (FCC) has mandated all Public Safety and Industrial/Business licensees using 25 kHz radio systems to migrate to narrowband 12.5 kHz channels or a technology that achieves equivalent efficiency by January 1, 2013.

#### What Is Spectrum Efficiency?

The purpose of the FCC narrowband mandate is to promote more efficient use of the VHF and UHF land mobile radio bands. Currently, these bands are so congested that often there is not enough spectrum available for licensees to expand their existing systems or implement new systems.

Requiring licensees to convert their radio systems to operate on narrower channel bandwidths will allow additional channels to exist within the same spectrum.



#### Who Is 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.

#### Start Planning Now

If not already started, then now is the time to develop a migration plan to narrowband systems.

**Take inventory.** Review current equipment to determine what can be converted to 12.5 kHz and what will need to be replaced before January 1, 2013. Most new equipment has the capability for both 25 kHz and 12.5 kHz operation because any VHF/UHF radio equipment accepted by the FCC after February 14, 1997, had to have 12.5 kHz capability. Contact your authorized Vertex Standard dealer to determine if your radio equipment is capable of operating in the 12.5 kHz mode.

**Develop budget requirements, explore funding options and establish a conversion and implementation schedule.** Include studies to ensure 12.5 kHz operation continues to provide similar coverage. Once you determine possible equipment conversion needs, start developing funding and conversion schedules. Remember to coordinate your conversion with neighboring agencies or other organizations to maintain continued interoperability.

**Obtain new or modified licenses.** In addition to operating on narrowbanded equipment, users must be properly licensed by the FCC with the correct emissions designator. Contact your preferred frequency coordinator or authorized Vertex Standard dealer for assistance.

#### January 1, 2013

- All licensees must convert to and operate in at least 12.5 kHz efficiency.
- Equipment only capable of operating at 25 kHz efficiency must be replaced.
- Existing certified dual mode (25/12.5 kHz) equipment must have the 25 kHz mode disabled via software.
- Manufacturers can no longer certify, produce or import equipment capable of operating at 25 kHz efficiency.

## Vertex Standard 12.5 kHz Radios

### Portables

VX-231  
VX-350 Series  
VX-410 Series  
VX-420 Series  
VX-450 Series  
VX-820 Series  
VX-920 Series  
VXD-720

### Mobiles

VX-2100  
VX-2200  
VX-4500  
VX-4600  
VX-5500  
VX-6000  
VX-7200  
VXD-7200

### Repeaters

VXR-1000 (UHF)  
VXR-7000  
VXR-9000  
VXD-R70

## Frequently Asked Questions

### Will I need to change the frequency band used to be compliant?

No. Narrowbanding does not require moving to another frequency band. 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.

### If I need to upgrade equipment, do I need to implement digital equipment?

No. The 12.5 kHz narrowband equipment is available in both conventional analog and digital formats (e.g. Project 25). After January 1, 2013, analog and digital equipment must operate on a 12.5 kHz channel or achieve equivalent efficiency.

### What does it mean to use technology that achieves equivalent efficiency?

For voice applications, the FCC efficiency standard can be met if equipment either operates on a 12.5 kHz channel or transmits at least one voice channel per 12.5 kHz of bandwidth. This means equipment operating on a 25 kHz channel bandwidth is compliant if the equipment supports two or more voice channels.

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

No. The FCC has not set any date by which licensees must operate in 6.25 kHz efficiency.

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

Contact a certified frequency coordinator or authorized Vertex Standard dealer for assistance.

Refer to the FCC website for listing of frequency coordinators:

[http://wireless.fcc.gov/services/index.htm?job=licensing\\_3&id=industrial\\_business](http://wireless.fcc.gov/services/index.htm?job=licensing_3&id=industrial_business)

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

No. Your 12.5 kHz channel will remain on the same channel center. Your current 25 kHz channel will not be split into two 12.5 kHz channels. You will need to justify and apply for the additional 12.5 kHz channels to the FCC through a certified frequency coordinator.

### What will happen if I fail to comply with the FCC narrowbanding mandate? Can I continue to operate at 25 kHz efficiency on a secondary status after January 1, 2013?

No. The FCC will prohibit licensees from operating non-compliant 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.

### Will migration to 12.5 kHz change my system coverage area?

Maybe. Conduct tests during conversion to ensure your system continues to provide similar coverage. Contact your authorized Vertex Standard dealer to help you determine if transmitter site changes or additions will be required to compensate for possible coverage change.

## Additional Resources

Visit the Vertex Standard FCC Narrowband Center at [www.vertexstandard.com/lmr](http://www.vertexstandard.com/lmr)

### FCC Rules:

- Code of Federal Regulations (CFR), sections 90.209(b)(6)(i), 90.209(b)(6)(ii) and 90.209(b)(5) for licensee deadlines, and 90.203(j)(3) and 90.203(j)(10) for manufacturer deadlines: [http://www.access.gpo.gov/nara/cfr/waisidx\\_08/47cfr90\\_08.html](http://www.access.gpo.gov/nara/cfr/waisidx_08/47cfr90_08.html)
- FCC narrowbanding guidelines summary: [http://www.fcc.gov/pshs/docs/public-safety-spectrum/General\\_Information\\_on\\_VHF-UHF\\_Narrowbanding.pdf](http://www.fcc.gov/pshs/docs/public-safety-spectrum/General_Information_on_VHF-UHF_Narrowbanding.pdf)

### FCC Licensing and Coordination Guidelines:

- FCC Wireless Telecommunications Bureau, Public Safety and Homeland Security Bureau sites for licensing and frequency coordination procedures: [http://wireless.fcc.gov/services/index.htm?job=service\\_home&id=industrial\\_business](http://wireless.fcc.gov/services/index.htm?job=service_home&id=industrial_business) and <http://www.fcc.gov/pshs/public-safety-spectrum/coord.html>