

Federal Communications Commission
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Laboratory Division Public Draft Review

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Draft Laboratory Division Publications Report

Title: Questions and Answers on Re-farming Part 90 frequencies

Short Title: Questions and Answers on Re-farming Part 90 frequencies

Reason: Revision

Publication: 579009

Keyword/Subject: Re-farming Part 90 Frequencies

First Category: Radio Service Rules

Second Category: Licensed Transmitters Part 90 Land Mobile

Third Category: Licensed Transmitters

Question: How will new applications and permissive change applications be handled for wideband and narrowband equipment in the Part 90 re-farming bands?

Answer: In WT Docket 99-87 (FCC 03-34, FCC 04-292), the Commission adopted new frequency plans and transition provisions for transmitters operating pursuant to Part 90 of the FCC Rules. The new rules prohibit Equipment Authorization of devices with 25 KHz bandwidth in the Part 90 refarming (narrowbanding) frequency bands 150-174 and 421-512 MHz after 12/31/2010 (the transition date), unless the equipment meets the efficiency standards discussed below. A reminder Public Notice about the deadlines, FCC DA-09-2589, was released 12/11/2009. An Order has subsequently been released June 30, 2010 (FCC 10-119) to waive the deadline for ceasing manufacture or importation of equipment that includes a 25 kHz mode until January 1, 2013.

The current policy to address this timeline is:

New Grants: Applications for new equipment authorizations received before the transition date can be granted with a wideband (25 KHz) emission designator as long as the equipment also has a narrowband (12.5 KHz and/or 6.25 KHz) emission designator. Applications for new equipment authorization received after the transition date will not be granted with a wideband emission designator unless they are intended to meet certain specific rules as discussed below.

Transmitters operating under the following special provisions of spectral efficiency can be approved by a TCB under Permit-but-ask (PBA) procedure:

- (i) Section 90.203(j)(4) with channel bandwidths of greater than or equal to 12.5 kHz operating in either multi-bandwidth modes, or
- (ii) Section 90.203(j)(5) for special provisions of spectrum efficiency standards, or
- (iii) Section 90.203(j)(7) for one way paging channel standards, or
- (iv) Section 90.203(j)(8) for slower data rate where case-by-case consideration is necessary.

The filing should clearly describe how the appropriate spectral efficiency standards are achieved and provide an attestation from the applicant indicating compliance with the rules. These should be submitted to the FCC for review as a part of the PBA filing.

The efficiency standard for digitized voice can be satisfied either by having multiple emissions such as four separate emissions on a 25 kHz channel or have multiple voice channels on a single emission (e.g., TDMA). The efficiency standard for data for single bandwidth mode or multi-bandwidth mode devices requires at least 4800 bps per 6.25 kHz of bandwidth or 9600 bps per 12.5 kHz channel. A 25 kHz single mode device must have a single emission rated at 4 x 4800 bps or a mode that has four individual but simultaneous emissions at 4800 bps per emission. Radios designed to operate on a 6.25 kHz channel do not need to meet the 4800 bps efficiency standard.

Permissive Changes: A Class I permissive change may not be used to change the emission designator of any device. Applications for a Class II permissive change received before the equipment authorization deadline (January 1, 2011) may be submitted for any modification that meets the definition of a permissive change (Refer to KDB 178919). The wideband emission designator will remain listed on the grant. After January 1, 2011 and prior to the final transition date, Class II permissive changes may be submitted to a wideband transmitters to add the narrowband designator if no hardware changes are made or to a multimode transmitter as generally permitted under our rules (also see KDB 178919). In general, applications for Class II permissive changes for wideband-only equipment will not be accepted after the final transition date (January 1, 2013) and after the final transition date (January 1, 2013), all applications for permissive changes will be granted without the wideband emission designator and any such emissions should be disabled. A device that supports multi-mode capability or meets the spectrum efficiency standards of Section 90.203(j)(5) may continue to have the wideband emission designation as explained above.

Permissive Change Example: Equipment is approved for 25/12.5 KHz operation prior to the transition date. After the transition date a component unrelated to the power output or frequency determining circuitry becomes unavailable and must be replaced with a similar component. The change meets the 2.1043 definition of a permissive change and the device is tested to determine if a Class I or Class II permissive change is appropriate. If the test results show a Class I change is acceptable, then the process is complete and the new device may be marketed. If the test results show a Class II permissive change is required, an application is then submitted to the FCC or a TCB. When a permissive change is filed for 25/12.5 KHz equipment the FCC will not require the device to show compliance with the spectral efficiency standards of Section 90.203(j)(5) until they take effect on January 1, 2013.

Software Change to Remove Emission: When a software change is made to a device to remove an approved operating mode/emission designator, no permissive change is required unless the device was approved as a Software Defined Radio. If the device was approved as a software defined radio, a Class III permissive change must be filed with the Commission.

An updated reminder Public Notice (DA 10-2294) was issued on December 6, 2010. This updated reminder provides a link to the FCC Public Safety and Homeland Security Bureau (PSHSB) VHF/UHF Narrowbanding Information web site which contains general refarming information as well as information on frequency coordination and Grant Programs. (see <http://www.fcc.gov/pshs/public-safety-spectrum/narrowbanding.html>).

Attached to this publication is document 579009 D01 - Q and A on Re-farming Part 90 freq v02r01 which provides a series of questions and answers on this topic.

Attachment List:

579009 D01 - Q and A on Re-farming Part 90 freq v02r01

Note: There are no changes to the attachment in the current publication.