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# **Narrowband**

In <u>radio communications</u>, a **narrowband** channel is a channel in which the <u>bandwidth</u> of the message does not significantly exceed the channel's <u>coherence bandwidth</u>.

In the study of wired <u>channels</u>, *narrowband* implies that the channel under consideration is sufficiently narrow that its <u>frequency response</u> can be considered flat. The message bandwidth will therefore be less than the <u>coherence bandwidth</u> of the channel. That is, no channel has perfectly <u>flat fading</u>, but the analysis of many aspects of wireless systems is greatly simplified if flat fading can be assumed.

In the <u>audio</u> spectrum narrowband sounds are sounds that occupy a narrow range of <u>frequencies</u>. In <u>telephony</u>, narrowband is usually considered to cover frequencies 300–3400 Hz, i.e. the voiceband.

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## Two-way radio narrowband

Two-Way Radio Narrowbanding refers to a U.S. <u>Federal Communications Commission</u> (FCC) Order issued in December 2004 requiring all CFR 47 Part 90 VHF (150-174 MHz) and UHF (421-470 MHz) PLMR (Private Land Mobile Radio) licensees operating legacy wideband (25 kHz bandwidth) voice or data/SCADA systems to migrate to narrowband (12.5 kHz bandwidth or equivalent) systems by January 1, 2013. [1]

### See also

- Broadband
- Electromagnetic interference
- Land mobile service
- Rural internet
- Ultra-wideband
- Wideband

### References

1. FCC Order issued in December of 2004 (http://hraunfoss.fcc.gov/edocs\_public/attachmatch/FC C-04-292A1.pdf)

### **External links**

- FCC website (http://www.fcc.gov/)
- FCC Part 90 LMR VHF/UHF Narrowbanding Information and Licensee Resources (http://www.wirelessradio.net/)
- Narrowbanding Resource Guide for 2013 (http://www.narrowband.us/)

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