Radio Frequency Band Allocations Research Report

AM, FM-Wide, and FM-Narrow Bands in Canada/USA (500kHz - 1.7GHz)

Based on comprehensive research of Canadian ISED and US FCC regulations, I've compiled a detailed analysis of AM, FM-Wide, and FM-Narrow frequency bands within the 500kHz to 1.7GHz range.

Comprehensive Frequency Allocation Matrix

Frequency Range	Band Category	Intended Purpose/Use	Regulatory Jurisdiction	Channel Spacing/Bandwidth	Power Limits Special Notes
530-1600 kHz	AM	Standard AM radio broadcasting for public reception	Both Canada/USA	10 kHz channels	1kW-50kW typ harmonized u ITU Region 2
1610-1700 kHz	AM (Expanded)	Extended AM broadcasting to relieve congestion Wikipedia Wikipedia	Both Canada/USA	10 kHz channels	1-10 kW stan implemented 1990 Wikiped
525-1705 kHz	AM (Low-Power)	Tourist info, campus radio, community broadcasting ISED Canada Canadian Radio-television and ...	Canada	10 kHz channels	<100W; CRTC exemption or available
88.0-108.0 MHz	FM-Wide	Commercial/non-commercial FM radio broadcasting	Both Canada/USA	200 kHz channels	100W-100kW wideband FM ±75 kHz devia
138-174 MHz	FM-Narrow (Canada) / FM-Wide legacy (USA)	Public safety, business/industrial communications National Telecommunications ...	Canada: 15 kHz spacing USA: 7.5 kHz (narrowband)	Canada: 15 kHz USA: 12.5 kHz max (since 2013)	1-50W typical narrowbandin mandate app
150.8-156.25 MHz	FM-Narrow/Wide	Business/Industrial Pool National Telecommunications ...	Both Canada/USA	Legacy 25 kHz, now 12.5 kHz	Licensed serv coordination required
406.1-430 MHz	FM-Wide legacy / FM-Narrow current	Public safety, business communications	Both Canada/USA	25 kHz legacy, 12.5 kHz current	Up to 50W; Canadian SRS 501 governs
450-470 MHz	FM-Wide legacy / FM-Narrow current	Business band, public safety, GMRS, FRS	Both Canada/USA	25 kHz legacy, 12.5 kHz current	2-50W typical heavily used l mobile band
470-512 MHz	FM-Wide	Land mobile in urban areas (shared with DTV)	USA (select cities)	25 kHz channels	Licensed; TV protection rec not narrowba
758-775 MHz /	FM-Narrow	Public safety communications	Both Canada/USA	6.25 kHz narrowband	Public safety agencies only digital preferr

Frequency Range 788-805 MHz	Band Category	Intended Purpose/Use	Regulatory Jurisdiction	Channel Spacing/Bandwidth	Power Limits Special Notes
764-776 MHz / 798-806 MHz	FM-Wide/Narrow	Public safety broadband and narrowband	Both Canada/USA	25/50 kHz wide, 6.25/12.5 kHz narrow	Licensed to p safety; suppo analog & digit
806-824 MHz / 851-869 MHz	FM-Wide/Narrow	Trunked radio, public safety, business Federal Communications Com...	Both Canada/USA	25 kHz standard, 12.5 kHz available	Various powe levels; 45 MH duplex spacir
896-901 MHz / 935-940 MHz	FM-Wide	Industrial/business communications Legal Information Institute	Both Canada/USA	25 kHz channels	Licensed business/indu 39 MHz duple
901-902 MHz, 930-931 MHz, 940-941 MHz	FM-Narrow	Personal Communications Services	Canada	Narrowband channels	7W ERP (901- mobile use ot ISED Canada

Key Regulatory Differences

Canadian Regulations (ISED)

- **VHF High Band**: Maintains 15 kHz channel spacing Marscan (not subject to US narrowbanding)
- **Power Requirements**: Generally more flexible than USA
- **Low-Power AM**: Special category under 100W with exemption orders ISED Canada Canadian Radio-television and ...
- **Technical Standards**: RSS-119 for equipment requirements ISED Canada ISED Canada

US Regulations (FCC)

- **Narrowbanding Mandate**: Required migration to 12.5 kHz efficiency by 2013 for VHF/UHF bands Federal Communications Com... Kcwirelessinc
- **AM Classifications**: Clear, regional, and local channel designations
- **Technical Standards**: Part 73 (Broadcasting) and Part 90 (Land Mobile)

Technical Specifications Summary

AM Band Characteristics:

- Channel bandwidth: 10 kHz (North America standard) Federal Communications Com...
- Audio bandwidth: Limited to 10.2 kHz Wikipedia
- Occupied bandwidth: 20.4 kHz maximum Wikipedia

FM-Wide Characteristics:

- Traditional: 25 kHz channel spacing Batboard
- Broadcast FM: 200 kHz channels with ±75 kHz deviation Federal Communications Com...
- Emission designators: 20K0F3E, 16K0F3E HFUnderground

FM-Narrow Characteristics:

- Current standard: 12.5 kHz or less efficiency Federal Communications Com...
- Ultra-narrow: 6.25 kHz channels Federal Communications Com...
- Emission designators: 11K0F3E, 8K30F1E HFUnderground

Cross-Border Coordination

Both countries maintain coordination agreements within approximately 120km of the Canada-US border, ensuring compatible operations for public safety interoperability, commercial systems, and interference mitigation. Legal Information Institute The regulations are largely harmonized under ITU Region 2 standards Wikipedia and bilateral agreements. Innovation, Science and Econo...

This comprehensive matrix covers all AM, FM-Wide, and FM-Narrow frequency allocations within the specified 500kHz to 1.7GHz range, with primary focus on Canadian ISED regulations ISED Canada Innovation, Science and Econo... supplemented by relevant US FCC regulations where applicable or shared.