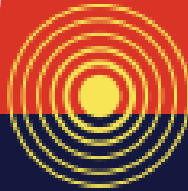


THE **ARRL**

FIFTH EDITION

HAM RADIO LICENSE MANUAL



EVERYTHING YOU NEED TO GET YOUR FIRST HAM RADIO LICENSE!

- All questions and answer key, with detailed explanations, to help you pass your test and get on the air!
- For use with exams taken between July 1, 2022 and June 30, 2026.



Amateur Radio Technician Exam Preparation Course



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Amateur Radio Technician Exam Prep Course

Chapter 7

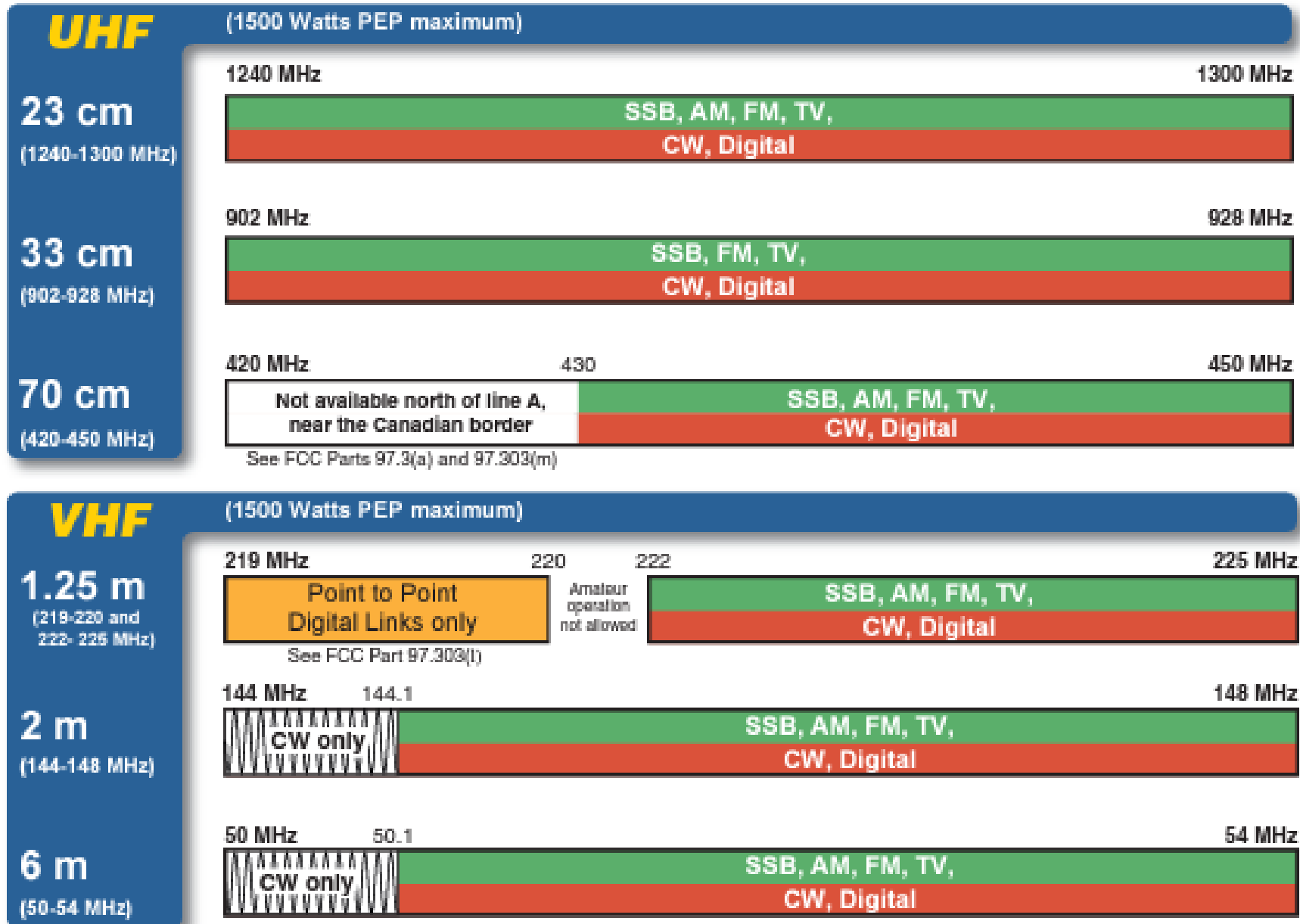
Licensing Regulations

- 7.1 Licensing Terms
- 7.2 Bands and Privileges**
- 7.3 International Rules
- 7.4 Call Signs

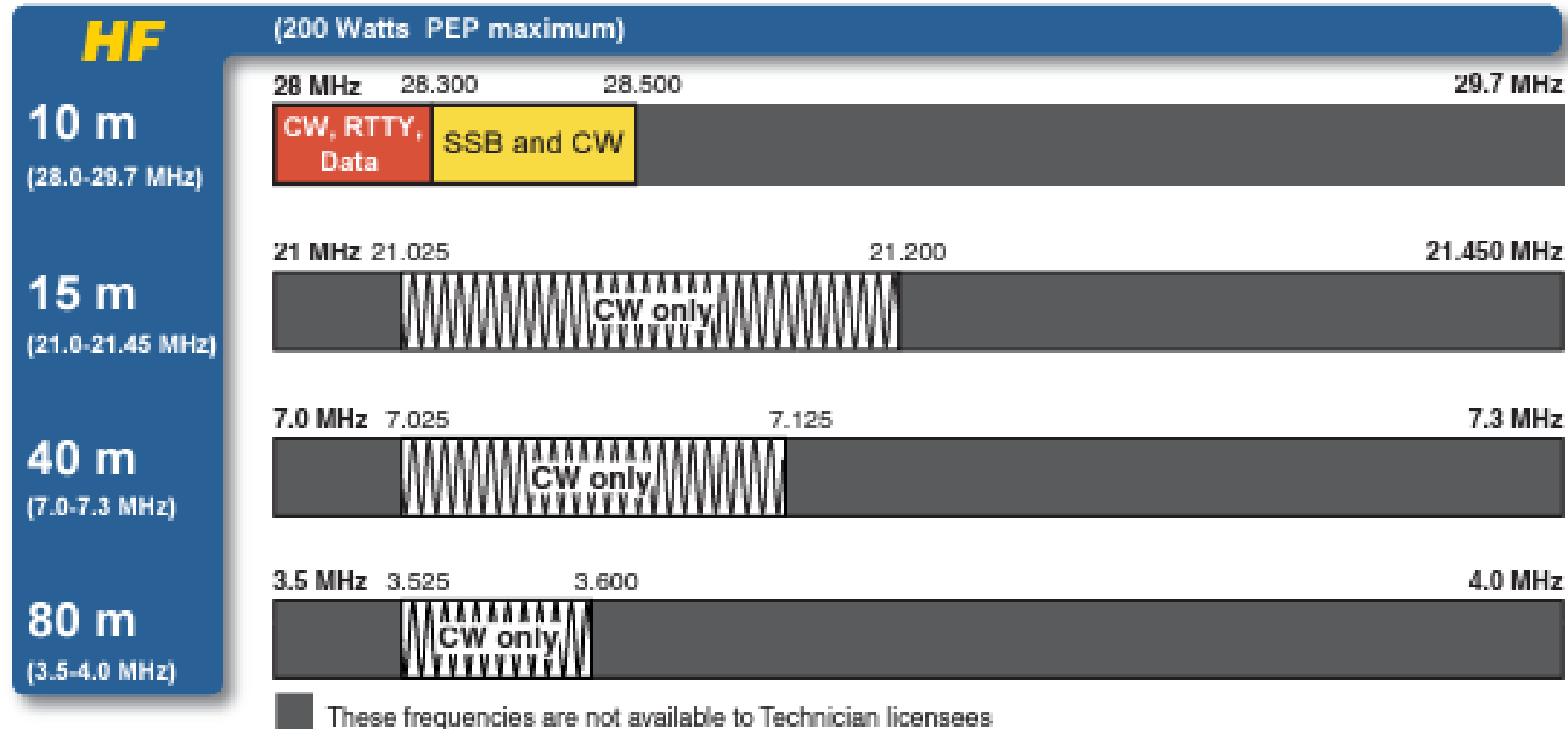
Bands and Privileges

- There are hundreds of bands and dozens of different types of radio spectrum users
- The frequency privileges granted to the various services are called *allocations*
- Most common bands used by Technicians ...
 - 6 meters (50 – 54 MHz)
 - 2 meters (144 – 148 MHz)
 - 70 cm (420 – 450 MHz)
 - See Table 7.2, Table 7.3, and Figure 7.3 in your text
- Technician privileges at ...
 - <http://www.arrl.org/files/file/Tech%20Band%20Chart/US%20Amateur%20Radio%20Technician%20Privileges.pdf>

Technician Privileges



Technician Privileges (cont.)



Emission Privileges

- *Emission* is the formal name for any radio signal from a transmitter
- An *emission privilege* is permission to communicate using a particular mode (phone, CW, data, image, etc.)
- *Beacons* are found on 10 meters between 28.2 and 28.3 MHz and in the lower segments of the VHF, UHF, and microwave bands

Power Limits

- Output power from a transmitter or amplifier is defined in terms of *peak envelope power* (PEP)
- Amateurs are allowed the full legal limit of 1500 watts PEP output (some exceptions)
- Below 30 MHz, Novice and Technician licensees are limited to 200 watts PEP on HF bands

Primary and Secondary Allocations

- Many amateur bands are exclusively allocated to hams
- Occasionally two services receive *shared allocations* (even ham bands)
 - One group is generally given priority ... called *primary allocation*
 - Lower priority is called *secondary allocation*
- The primary service is *protected* from harmful interference by signals from secondary services
 - For example, amateurs have a secondary allocation in the 70 cm band and must avoid interfering with radiolocation stations that have primary status
- Part 97.303 lists all of the frequency-sharing requirements for US hams (see www.arrl.org)

Repeater Coordination (includes Auxiliary Stations)

- Hams have developed a system of regional frequency coordination to ensure that repeaters use amateur bands wisely and avoid interference to the greatest degree possible (not FCC controlled)
- Repeaters' input and output frequency pairs are fixed and have a common offset in each region
- A committee of volunteers known as a *frequency coordinator* recommends transmit and receive frequencies
- Frequency coordinator representatives are selected by local or regional amateurs whose stations are eligible to be repeater stations
- Uncoordinated repeaters are strongly discouraged because they often cause interference

ANY QUESTIONS?

