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Subject: Extensions of data segments on HF bands
Committee(s): C4

Introduction

The use of digital data modes is growing significantly. The recent success of FT8 mode is just one example.

Background

The use of sound cards an PC software enabled a steep take off of digital modes on hf. The use of clever code and FEC/CRC enables even QRP or moderately equipped stations to make contacts despite the low sun spot activity and poor hf propagation.

Key points and proposal

Sources in the internet list a huge amount of different standards and modes for digital communication. (PACTOR, FT8, JT9, WSPR, FSK441, THOR, PSK, MSFK, ROS, HELL, RTTY, EasyPal, VARA, ARDOP, WINMOR, … to name just a few!) These enable radio amateurs to transmit pictures, email, weather data and GPS positions or simply exchange call signs and report. Looking on a spectrum analyzer or SDR waterfall display you would see most of the activity is centered in the data segment of the hf bands. However the amount of spectrum dedicated in band planning for digital data is still much less compared to CW. This is particularly evident during digital data mode contest or Dxpedition activities. The lack of spectrum and lack of protection does also limit unmanned automatic stations during emergency exercises. In order to address the need and raise awareness among conservative members more spectrum and better protection for digital modes would be advisable.

Recommendation:

We therefore propose to
- extend the data segment on hf band wherever possible by additional 25%
- and/or make flexible band segments depending on demand and traffic (e.g. extend data segment further during a contest)
- and remove bandwidth restrictions from most data segments, as new digital modes will enable more effective data transmissions within shorter time of channel occupancy,
- and allow channel bundling to enable faster data transfer (MiMo principle similar to military and Wifi)

Financial Implications: none