

## Comments of Gary Pearce K4AAQ

In the matter of RM-11785 and ET Docket No. 23-120

To Allocate the Band 5351.5-5366.5 kHz to the Amateur Radio Service

10/15/2023

I hold an Amateur Extra class license. I've been licensed since 1965, and I have operated the 60 meter band since it was initially authorized to the Amateur Radio Service in 2002.

While I generally support the ARRL's position from 2017, to keep all five current 60 meter 'channels' *and* add the 15 kHz wide 5351.5-5366.5 band, and keep the 100 Watt EIRP power limit, I have a **unique additional proposal** with a few specific elements.

- **Keep the four current 'channels'** that fall *outside* of the proposed band.
  - Keep the power level at 100 Watts EIRP.
  - But **return them to USB (Upper Sideband) only**. Eliminate the option to use CW and narrow digital modes.
- **Add the 15 kHz wide 5351.5-5366.5 band.**
  - But **restrict it to 'narrow' modes**, CW and digital. No phone modes.
  - Eliminate the current 'channel' that falls within that band - make the band just a 15 kHz wide band (this eliminates the USB authorization of that spectrum).

See the **Exhibits** below for diagrams of what the band would look like under my proposal.

### Discussion:

Radio Amateurs initially sought the 60 meter spectrum to fill in a daytime gap in geographical coverage, when the 80 meter band was sometimes too 'short' to cover a region (it may reach only about 150 miles), while the 40 meter band had a 'skip zone' of ~200 to 400 miles. Daytime propagation on 60 meters has a very short skip zone, and can usually reach 300 to 500 miles. 20 years of operation have shown this to be accurate. This coverage is especially important to regional emergency and Health and Welfare communications when other communications infrastructure has been limited or is unavailable.

In RM 11785, the FCC asks if they should **retain the existing channels**, or **limit Amateur Radio operation to the proposed 15 kHz wide band**. My proposal seeks to **keep four of the existing channels**, and make them exclusively USB (as they initially were), while **also implementing the new band**, making it exclusively CW/digital. USB and CW/digital modes are incompatible and work better when they are segregated to their own spectrum.

The existing 'channels' have been in use for over 20 years (one channel was moved in 2012), and Amateur operation has proven to be highly compatible and non-interfering with other users of the 5 MHz spectrum. There have been no documented cases of interference, much less any requests for Amateurs to refrain from using any of the existing 'channels' for any period of time as we are obligated to do as secondary users, with the note that the ARRL requested that one

channel be moved when experience showed that it was in frequent use by a primary user, using a mode that Amateurs could not decode and decipher.

This history of compatibility has been **at the 100 Watt EIRP power level**, which was raised from the initial 50 Watt level in 2012. 100 Watts EIRP for USB operation at 5 MHz is mostly satisfactory, but certainly not excessive. Most daytime signals received via skywave are moderate, not strong. There's little margin for readability when added noise is present. A 15 Watt (effectively 9 Watt EIRP) power level would reduce signals to a whisper under low-noise conditions, and unreadable when other noise is present.

Amateurs do value operation at power levels this low and lower, but in those cases we consider the value is the *challenge* such operation presents - a challenge not always met - with success measured by *barely* completing a contact with minimal exchange of information. Our emergency communications, and even our routine communications, are not seeking this additional challenge.

My proposal seeks to eliminate the 'narrow' mode (CW/digital) operation from the four remaining 'channels', leaving them USB only, while making the new band 'narrow'-only. The narrow modes were added in 2012, with the provision that the narrow signals only use the "center frequency" of the channel - essentially one-signal-per-channel. While the NTIA had reasons for this stipulation, it was and is **a very inefficient use** of a 2.8 kHz wide channel. Adding the new 15 kHz-wide band presents an opportunity to separate fairly incompatible uses of the spectrum, while providing the narrow modes their own, exclusive band segment. Keeping the four original 'channels', and making them USB only, reduces the incentive to use the new band for phone operation, especially since that band is only 15 kHz wide. Consider that when the 30 meter band was introduced, its 50 kHz width was considered too small for phone operation.

Conversely, opening the new, very small band to *any* mode invites interference and conflict between incompatible modes. All other HF Amateur bands segregate narrow and phone modes by rule (and somewhat by convention, acknowledging that CW is permitted anywhere, but it's considered bad operating practice to use it in phone bands).

I don't want to ignore the question of compatibility between narrow modes, and even the possibility of a 'wide' digital mode as is being considered in another rulemaking. If my proposal prevails, I'll leave it to the narrow mode users to sort out the compatibility issues between CW and digital modes, and perhaps the option of having one 2.8 kHz 'wide' digital segment. This may be done through voluntary band planning, or may require rulemaking. This issue is currently being sorted out on the other Amateur bands.

There may be some question of power levels if the FCC does decide on a 'narrow mode' only band. These operations, currently permitted on the 5 existing 'channels', live with the same 100 Watt EIRP power limit as do USB operations. Most of the narrow digital modes require limiting the transmit power level to well below the 100 Watt rated power of most of today's transceivers, and users make that adjustment. CW operators can and do use the full 100 watts, even though

that mode is famous for 'getting through' with less power under suboptimal conditions. But even these modes would suffer reduced capability with a 9 Watt power limit. If there's a point to reducing the power below 100 Watts EIRP to avoid interference with primary spectrum users, that point hasn't been demonstrated by any incumbent users. Unless they can show why they need that protection in the few extra kHz above and below the current 5358.5 'channel', I support making that band's power limit 100 Watts EIRP as well.

Finally, there is an **international consideration**. Obviously, this is a US-only plan. We've long departed from the WRC recommendation, and many countries around the world are implementing their own versions of 60 meter spectrum for Radio Amateurs. I am primarily considering **daytime use**, when international coverage will be limited to Canada, Mexico and the Caribbean. Yes, there will be some incompatibility, unless those countries (or their Amateurs voluntarily) adopt the US position. I think we can live with that relatively narrow strip of incompatibility within a few hundred miles of those borders. It's not ideal, and of course it's untested in the real world. I still think it's better than an 'anything goes' 15 kHz wide band.

**Nighttime** is a different story, when 60 meters can support nearly worldwide propagation. I don't see any way to harmonize the band worldwide - that ship has sailed. We wanted the band for its value in daytime propagation, and that's the basis for it being granted.

**Summary:**

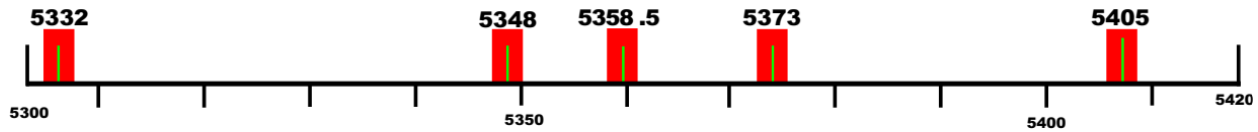
The existing 60 meter 'channels', with the 100 Watt EIRP power level, have proven useful and compatible with existing 5 MHz users. There's no reason to eliminate them. The proposed 15 kHz wide band - if limited to CW and narrow digital modes - would make it possible to segregate those incompatible modes from four of the existing channels, returning them to USB-only operation. I support this more expansive allocation.

**Submitted by**

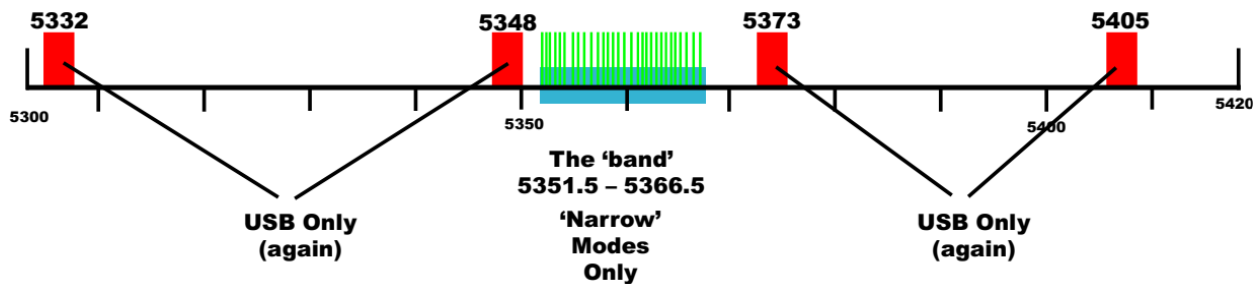
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## Exhibits:

This diagram shows the existing 5 'channels' allocated to Amateur Radio (on a secondary basis) in the 60 meter band. The **red blocks** approximate the width of the 2.8 kHz 'channels'. The **green lines** approximate the width of narrow-mode digital or CW signals.



This diagram shows what the band would look like if my proposal was applied.



This diagram adds the option of a 'wide' digital segment as a suggestion. It also shows what spectrum would be available to a radio that currently has the capability to operate as USB on the existing 5 channels, but would have to be modified (if possible) to take advantage of the new 15 kHz wide band.

