Frequency Measuring Test — November 2022

Paul Bourque, N1SFE

n1sfe@arrl.org

The November Frequency Measuring Test (FMT) will have two transmitting stations: Michael Suhar, W8RKO, in Ohio, and Connie Marshall, K5CM, in Oklahoma. Transmissions will be made on 40 and 80 meters, in that order. This should give stations throughout North America an opportunity to receive and measure a strong signal.

If you've never entered an FMT before, information on how to measure the frequency of a carrier is available at **www.k5cm.com**.

Measurement Software

The free software tools are quite advanced. If you're already using the *WSJT-X* suite of FT8 or WSPR, you can use its frequency calibration mode as a sophisticated frequency measurement tool. Joe Taylor, K1JT, explains how to use *WSJT-X* for frequency measurement in "Accurate Frequency Measurements with your WSPR Setup" (https://physics.princeton.edu/pulsar/ k1jt/FMT_User.pdf).

FMT Schedule and Format

The FMT "runs" will start with a call up by W8RKO at 0230 UTC on November 11 (Thursday evening in North America). The call-up frequency may not be the exact frequency as during the key-down period (it may shift as much as ± 10 Hz). Although the call up is scheduled to start at a specific time, both stations will try to start earlier to establish a clear frequency. Every effort will be made to start key down at the published time in Table 1. The key-down period will be 1 minute.

Measure the transmitted frequency and report your results at **https://fmt.arrl.org**. Results must be submitted by 0200 UTC on November 14, at which time they'll be published on the website. Stations submitting measurements within ±1 Hz for all transmissions from W8RKO and K5CM will be listed in the "Green Box" of the results.



The Doppler effect of sunrise and sunset on CHU's (a shortwave time signal radio station in Canada) 3.33 MHz frequency can be seen here. The narrow vertical blue line toward the top half of the image signifies that the frequency is very stable during the daytime hours. The varying colors spread across the bottom half of the image signify that the frequency is unstable later in the day.

Table 1

Frequency Measuring Test Schedule

Start: November 11 at 02:30 UTC (Thursday evening in North America)

Results: Submit measurements online until November 14 at 02:00 UTC (Sunday evening in North America)

40 Meters: W8RKO near 7064 kHz 02:30 Call up 02:33 Key down 02:34 End 40-meter run

40 Meters: K5CM near 7065 kHz 02:45 Call up 02:48 Key down 02:49 End 40-meter run

80 Meters: W8RKO near 3598 kHz 03:00 Call up 03:03 Key down 03:04 End 80-meter run

80 Meters: K5CM near 3599 kHz 03:15 Call up 03:18 Key down 03:19 End 80-meter run

If there's interference on the published frequency, tune around to find the FMT transmissions.