From: Whittington Ben

To: Hung Le
Date: May 20, 2020

Subject: Request for Info - File # 0385-EX-CN-2020

Message:

There are three emission modalities being utilized by this system (near-field inductive charging, near-field inductive communication, and Bluetooth communication).

For near-field inductive charging the RF signal is a continuous wave that sends charge energy between the devices without any modulated data. However, the amplitude of the carrier does change in order to regulate charge energy delivered. The update rate for this amplitude modulation is, at its fastest, 200ms or 5Hz. This results in an effective bandwidth of 10Hz centered at the carrier frequency. Therefore, the emission code for the charge emission is 10H0N0N.

As stated in the narrative statement provided with this application, the near-field communication emissions are comprised of an amplitude modulated (OOK) carrier with a maximum data rate of 10Kbs. The bandwidth of this emission is 20kHz centered on the carrier frequency and therefore the emission code is 20K0A1D. Note that the emission type specified in the initial submission (J) was a mistake.

For the Bluetooth communication signal (2402-2480MHz), the nRF52840 utilizes frequency modulation to transmit data at a 1Mbs rate resulting in an emission code of 1M00F1D. Note: In review of this question it was determined that an error was made in the original designation of the modulation type for the Bluetooth communications. Originally, W7D was submitted. As stated above, it has been determined that the correct designation is F1D.