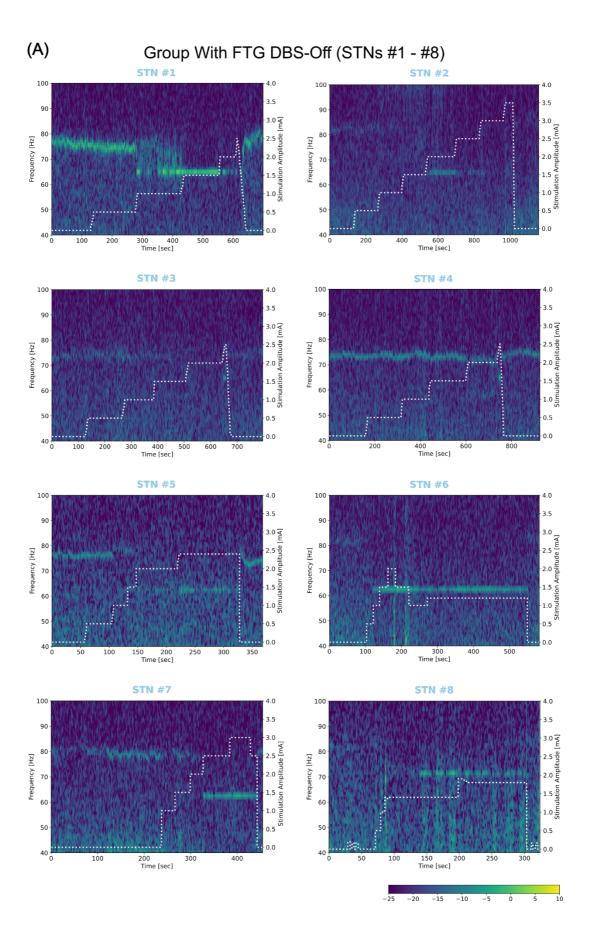
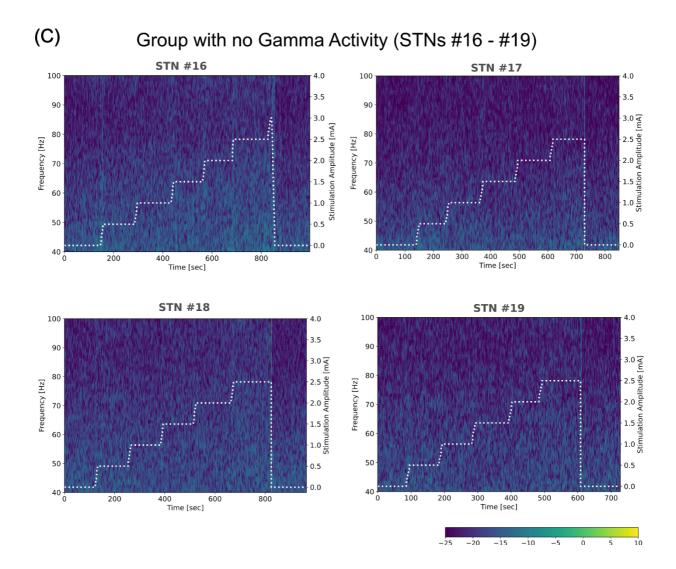
SUPPLEMENTARY MATERIAL



(B) Group Without FTG DBS-Off (STNs #9 - #15) STN #9 STN #10 100 3.5 90 90 Frequency [Hz] Frequency [Hz] 70 70 1.5 60 60 Stinu Stimu Stimu 1.0 50 0.5 50 0.5 40 0 40 0 200 600 800 400 800 1000 **STN #11** STN #12 100 100 4.0 90 3.0 0.2 -2.5 -2.0 - 2.0 - 2.0 - 2.0 - 2.0 - 2.0 - 2.0 - 2.0 3.0 2.5 2.0 2.5 1.5 1.0 2.0 Amplitage [mA] 80 80 Frequency [Hz] Frequency [Hz] 70 70 60 60 1.0 50 50 0.5 200 Time [sec] 400 400 500 Time [sec] 100 700 STN #13 STN #14 100 100 3.5 90 80 Frequency [Hz] 70-70 -60 60 1.0 50 0.5 40 0 0.0 40 0 400 Time [sec] 200 600 800 200 600 Time [sec] 1000 STN #15 100 90 80 Frequency [Hz] 70 60 50 100 300 400 Time [sec] 700 600



Supplementary Figure 1. Individual spectrograms of all STNs. (A) STNs with spontaneous FTG during DBS-off. (B) STNs without spontaneous FTG during DBS-off. Note that figure of the STN #14 has a different color scale. (C) STNs without gamma activity detected on/off DBS.