This work concerns with quantum turbulence in superfluid helium generated via spherically symmetric thermal counterflow. To this end, we designed a spherical brass cell with a point-like heater in the middle. The turbulence is detected using attenuation of second sound resonances. We mapped these resonances up to 10 kHz and compared them with theoretically calculated values. We obtained a dependence of Vortex line density (VLD) on the power $\dot{Q}$, the counterflow velocity v_{ns} or the normal component Reynolds number Re_n. All of these dependencies exhibit a slowly growing region, which is not in agreement with the theoretical relation $L \propto v_{ns}^2$ following from the Vinen equation. Moreover, we measured temporal decay of the quantum turbulence in the same flow and demonstrated scaling with time as $L \propto 1/t$. This is in good agreement with the Vinen equation. Additionally, the temperature profile caused by the counterflow was measured and calculated. We observed that the temperature difference drops with the radius as $1/r^p$, where p is between 5 and 6.