CAIRT is a candidate mission for ESA's Earth Explorer 11 mission. One of the key science deliverables of this proposed mission is an enhanced ability to study atmospheric gravity waves and their role in the weather and climate systems. In order to validate and better design the ability of the instrument design to resolve these features, it is important to simulate this. In this work, we will assess how well CAIRT resolves the gravity waves present in two state-of-the-art models already archived on Levante, specifically the 5km ICON and 3km GEOS DYAMOND-WINTER model runs archived at the DKRZ. This work builds upon extensive experience across the full domain of the study, including members of the CAIRT instrument design team, gravity wave specialists from multiple institutions.