



US 20220369496A1

(19) **United States**(12) **Patent Application Publication**
SIEWERT et al.(10) **Pub. No.: US 2022/0369496 A1**(43) **Pub. Date: Nov. 17, 2022**(54) **COOLING DEVICE FOR DISSIPATING HEAT**(52) **U.S. Cl.**(71) Applicant: **Erwin Quarder Systemtechnik GmbH**, Espelkamp (DE)CPC **H05K 7/209** (2013.01); **H05K 7/20927** (2013.01)(72) Inventors: **Georg SIEWERT**, Pohlheim (DE);
Alexander HEITBRINK, Stemwede (DE); **Stefan BRUNS**, Osnabrück (DE)(57) **ABSTRACT**(73) Assignee: **Erwin Quarder Systemtechnik GmbH**, Espelkamp (DE)

A cooling device for dissipating heat from articles to be cooled, such as power electronic modules, having at least one preferably rigid heat sink which consists in particular of solid material, preferably composed of metal, for example composed of aluminium, and which is intended to absorb heat from one or more articles to be cooled, and having a cooling fluid chamber for accommodating cooling fluid, in particular cooling liquid, to which the heat absorbed by the heat sink can be transferred. The cooling device has at least two preferably rigid heat sinks which consist in particular of solid material and which are connected to one another in an articulated manner, in particular by way of a heat sink joint, in such a way that the two heat sinks are movable relative to one another in different, in particular parallel planes.

(21) Appl. No.: **17/741,790**(22) Filed: **May 11, 2022**(30) **Foreign Application Priority Data**

May 12, 2021 (DE) 102021112415.8

Publication Classification(51) **Int. Cl.**
H05K 7/20 (2006.01)