



US 20240237282A1

(19) **United States**

(12) **Patent Application Publication**
WANG et al.

(10) **Pub. No.: US 2024/0237282 A1**

(43) **Pub. Date: Jul. 11, 2024**

(54) **LIQUID COOLING CLEANING VALVE**

(52) **U.S. Cl.**

(71) Applicant: **Quanta Computer Inc.**, Taoyuan City (TW)

CPC **H05K 7/20272** (2013.01); **H05K 7/20254** (2013.01); **H05K 7/20263** (2013.01); **H05K 7/20781** (2013.01)

(72) Inventors: **Wei-Te WANG**, Taoyuan City (TW);
Ming-Hung TSAI, Taoyuan City (TW);
Bo-Cheng CIOU, Taoyuan City (TW);
Jen-Mao CHEN, Taoyuan City (TW)

(57)

ABSTRACT

(73) Assignee: **Quanta Computer Inc.**, Taoyuan City (TW)

A liquid cooling system includes a cold plate thermally coupled to a heat-generating electronic component, a heat removal unit fluidly coupled to the cold plate, and a valve fluidly coupled to the cold plate and the heat removal unit. The cold plate has an internal fluid pathway. The heat removal unit delivers the cooling fluid to the cold plate, receives heated cooling fluid from the cold plate, and removes heat from the heated cooling fluid. When the valve is in a first orientation, the cold plate and the heat removal unit are fluidly coupled in a first configuration and the cooling fluid flows through the internal fluid pathway in a first direction. When the valve is in a second orientation, the cold plate and the heat removal unit are fluidly coupled in a second configuration and the cooling fluid flows through the internal fluid pathway in a second direction.

(21) Appl. No.: **18/298,725**

(22) Filed: **Apr. 11, 2023**

Related U.S. Application Data

(60) Provisional application No. 63/478,801, filed on Jan. 6, 2023.

Publication Classification

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

