

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2023/0232587 A1 Sun et al.

Jul. 20, 2023 (43) **Pub. Date:**

(54) ELECTRONIC DEVICE

(71) Applicant: Honor Device Co., Ltd., Shenzhen

(72) Inventors: Qiao Sun, Shenzhen (CN); Kun Li,

Shenzhen (CN); Silei Huyan, Shenzhen

(CN); Mao Ye, Shenzhen (CN)

(21) Appl. No.: 18/001,753

PCT Filed: Aug. 25, 2021

(86) PCT No.: PCT/CN2021/114443

§ 371 (c)(1),

(2) Date: Dec. 14, 2022

(30)Foreign Application Priority Data

(CN) 202023019475.5

Publication Classification

(51) Int. Cl. H05K 7/20 (2006.01)H01Q 1/02 (2006.01)H04M 1/02 (2006.01) (52) U.S. Cl.

CPC H05K 7/2039 (2013.01); H01Q 1/02

(2013.01); **H04M 1/0277** (2013.01)

(57)ABSTRACT

Embodiments of this application provide an electronic device, which solves the problem of mutual influence between a heat dissipation component and a patch antenna in the electronic device by multiplexing a heat sink in the electronic device. The heat sink provided by the embodiments of this application can be used as a heat dissipation component to distribute heat evenly, so as to achieve the purpose of cooling down an overheated electronic element. In addition, the heat sink can be used as a radiator of an antenna to form an antenna unit with the feed unit and generate radiation to the outside. The heat sink in a first region can be used as a main radiator of the antenna unit to meet the demand for the number of antennas in a 5G wireless communication system, and can also be applied to other communication systems.

