



- (51) **International Patent Classification:**
H05K 7/20 (2006.01)
- (21) **International Application Number:**
PCT/GB2024/050998
- (22) **International Filing Date:**
17 April 2024 (17.04.2024)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
2306349.8 28 April 2023 (28.04.2023) GB
- (71) **Applicant: ICEOTOPE GROUP LIMITED** [GB/GB];
AMP Technology Centre, Brunel Way, Rotherham South
Yorkshire S60 5WG (GB).
- (72) **Inventor: KADHIM, Mustafa;** c/o Iceotope Group Lim-
ited, AMP Technology Centre, Brunel Way, Rotherham
South Yorkshire S60 5WG (GB).
- (74) **Agent: BOULT WADE TENNANT LLP;** Salisbury
Square House, 8 Salisbury Square, London Greater London
EC4Y 8AP (GB).
- (81) **Designated States** (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,

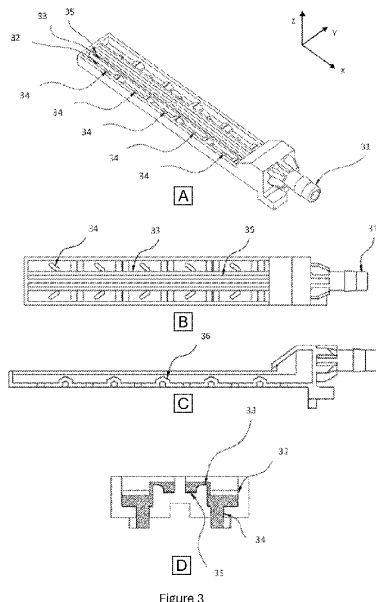
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG,
KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY,
MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA,
NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,
RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

- (84) **Designated States** (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, CV,
GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST,
SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ,
RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ,
DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT,
LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,
SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *of inventorship* (Rule 4.17(iv))

(54) **Title:** COOLING MODULE



(57) **Abstract:** A cooling module for cooling one or more electronic components within the cooling module, comprises: one or more electronic components; and a cooling element configured to cool the one or more electronic components by distributing liquid coolant over the one or more electronic components. The cooling element comprises: a first region configured to receive the liquid coolant from a supply of liquid coolant; a second region comprising a plurality of openings; and a weir between the first and second regions. The first and second regions and the weir are arranged above the one or more electronic components such that liquid coolant in the first region overflows over the weir and onto the plurality of openings, so as to distribute the liquid coolant over the one or more electronic components.

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*