

Title (en)

INTEGRATED BUBBLE GENERATION, TRANSPORT AND EXTRACTION FOR ENHANCED LIQUID COOLING IN A MICROCHANNEL HEAT EXCHANGER

Title (de)

INTEGRIERTE ERZEUGUNG, FÖRDERUNG UND EXTRAKTION VON BLASEN FÜR VERSTÄRKT FLÜSSIGKEITSKÜHLUNG IN EINEM MIKROKANAL-WÄRMETAUSCHER

Title (fr)

GÉNÉRATION DE BULLES INTÉGRÉE, TRANSPORT ET EXTRACTION POUR UN REFROIDISSEMENT DE LIQUIDE ACCRU DANS UN ÉCHANGEUR DE CHALEUR À MICROCANAL

Publication

EP 2499447 A2 20120919 (EN)

Application

EP 10830740 A 20101111

Priority

- US 28102209 P 20091112
- US 2010056407 W 20101111

Abstract (en)

[origin: WO2011060186A2] One embodiment can include a heat exchange system for heat exchange with a heat source and a cold source. The system can include a circulation loop. The circulation loop can include a heat emission portion configured to exchange heat with the cold source and a heat absorption portion configured to exchange heat with the heat source, the heat absorption portion comprising a channel. The embodiment can include a liquid pump configured to circulate a liquid through the circulation loop, from an inlet of the channel to an outlet of the channel and a bubble injector coupled to the circulation loop proximal to the inlet of the channel and configured to flow a gas to form a plurality of gas bubbles in the channel, with each of the plurality of gas bubbles monodispersed across the channel, with segments of liquid separating successive gas bubbles of the plurality of gas bubbles.

IPC 8 full level

F28D 5/00 (2006.01)

CPC (source: EP US)

F28D 15/00 (2013.01 - EP US); **F28F 13/06** (2013.01 - EP US); **H01L 23/473** (2013.01 - EP US); **F28F 2250/08** (2013.01 - EP US); **F28F 2260/02** (2013.01 - EP US); **H01L 2924/0002** (2013.01 - EP US)

Citation (search report)

See references of WO 2011060186A2

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

WO 2011060186 A2 20110519; WO 2011060186 A3 20120412; EP 2499447 A2 20120919; US 2013025831 A1 20130131

DOCDB simple family (application)

US 2010056407 W 20101111; EP 10830740 A 20101111; US 201013508471 A 20101111