

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
16 September 2021 (16.09.2021)



(10) International Publication Number
WO 2021/183644 A1

(51) International Patent Classification:

H01L 25/16 (2006.01) H01L 33/48 (2010.01)
H01L 23/538 (2006.01) H01L 33/62 (2010.01)

(21) International Application Number:

PCT/US2021/021702

(22) International Filing Date:

10 March 2021 (10.03.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

16/814,024 10 March 2020 (10.03.2020) US
20169027.8 09 April 2020 (09.04.2020) EP

(71) Applicant: **LUMILEDS LLC** [US/US]; 370 West Trimble Road, San Jose, California 95131 (US).

(72) Inventors: **DECKERS, Michael**; Philipsstrasse 8, 52068 Aachen (DE). **HIN, Tze Yang**; 370 West Trimble Road, San Jose, California 95131 (US). **BONNE, Ronald**; 370 West Trimble Road, San Jose, California 95131 (US).

(74) Agent: **KERNER, Dawn, C.**; Volpe Koenig, 30 South 17th Street, Suite 1800, Philadelphia, Pennsylvania 19103 (US).

(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, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN,

KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, 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, GH, GM, KE, LR, LS, MW, MZ, NA, RW, 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, 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).

Published:

— with international search report (Art. 21(3))

(54) Title: METHOD OF MANUFACTURING AN AUGMENTED LED ARRAY ASSEMBLY

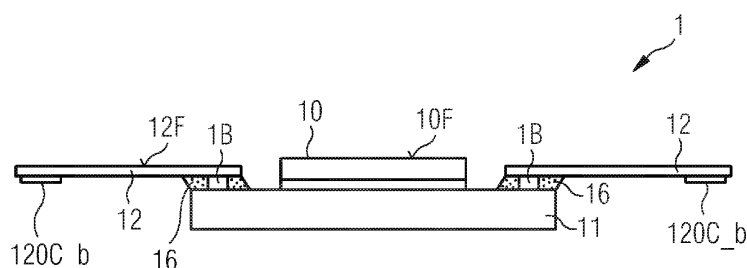


FIG. 1B

(57) Abstract: An LED array assembly may include a hybridized device and a flexible PCB. The hybridized device may include a micro-LED array mounted on a driver IC. The driver IC may include driver IC contact pads on a top surface of the driver IC. The flexible PCB may have a bottom surface, first contact pads on the bottom surface, second contact pads on the bottom surface, and contact bridges. Each of the contact bridges extends from one of the first contact pads to one of the second contact pads. Each of the driver IC contact pads is bonded to a corresponding one of the first contact pads of the flexible PCB.

WO 2021/183644 A1