

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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ARRAY PHOTONICS, INC.  
Petitioner Application No. 16/132,059,

v.

IQE, PLC  
Respondent Patent No. 9,768,339.

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Case No. DER2018-00019

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**PETITIONER'S UPDATED EXHIBIT LIST**

**UPDATED EXHIBIT LIST**

<b>Exhibit</b>	<b>Description</b>
1001	U.S. Patent Appl. No. 16/132,059 (“’059 application”)
1002	Assignment of U.S. Patent Appl. No. 16/132,059 (“’059 assignment”)
1003	U.S. Patent No. 9,768,339 to Yanka et al. (“’339 patent”)
1004	Prosecution File History of U.S. Patent No. 9,768,339 (“’339 patent file history”)
1005	U.S. Patent Appl. Pub. No. 2016/0372624 (“’624 publication”)
1006	Declaration of Seth Bank, Ph.D.
1007	Curriculum vitae of Seth Bank, Ph.D.
1008	Declaration of Philip Dowd, Ph.D.
1009	Declaration of Homan Yuen, Ph.D.
1010	Declaration of Ting Liu, Ph.D.
1011	Wafer Supply Agreement, Feb. 2, 2012 (“WSA”)
1012	Original Non-Disclosure Agreement, Jul. 28, 2011 (“Original NDA”)
1013	NREL Efficiency Chart
1014	<i>Tanabe, A Review of Ultrahigh Efficiency III-V Semiconductor Compound Solar Cells: Multijunction Tandem, Lower Dimensional, Photonic Up/Down Conversion and Plasmonic Nanometallic Structures</i>
1015	<i>Gambin, GaInNAsSb for 1.3–1.6-μm-Long Wavelength Lasers Grown by Molecular Beam Epitaxy</i>
1016	<i>Kurtz, InGaAsN solar cells with 1.0 eV band gap, lattice matched to GaAs</i>

<b>Exhibit</b>	<b>Description</b>
1017	Wu, <i>Band anticrossing in highly mismatched III–V semiconductor alloys</i>
1018	Shan, <i>Band Anticrossing in GaInNAs Alloys</i>
1019	DeLuca, <i>Base Layer Band Gap Engineering for III-V Bipolar Devices</i>
1020	Harris, <i>GaInNAs(Sb) long wavelength communications lasers</i>
1021	Shimizu, <i>High-Performance CW 1.26-<math>\mu</math>m GaInNAsSb–SQW Ridge Lasers</i>
1022	Bank, <i>Low-Threshold Continuous-Wave 1.5-<math>\mu</math>m GaInNAsSb Lasers Grown on GaAs</i>
1023	Yuen, <i>Improved optical quality of GaNAsSb in the dilute Sb limit</i>
1024	Yuen, <i>Comparison of GaNAsSb and GaNAs as quantum-well barriers for GaInNAsSb optoelectronic devices operating at 1.3–1.55<math>\mu</math>m</i>
1025	Ptak, <i>Positron annihilation study of vacancies in GaInNAs</i>
1026	Marti, <i>Limiting efficiencies for photovoltaic energy conversion in multigap systems</i>
1027	Veal, <i>Electron spectroscopy of dilute nitrides</i>
1028	Compound Semiconductor, July 2005
1029	<i>Intentionally left blank</i>
1030	Agenda for Solar Junction Visit
1031	Email Messages re: SJC procedures
1032	Documents related to SJC thermal annealing procedures
1033	Additional documents related to SJC thermal annealing procedures

<b>Exhibit</b>	<b>Description</b>
1034	J. Zilko (email correspondence, May 22, 2013)
1035	H. Williams (email correspondence, Feb. 17, 2012)
1036	E. Pickett (email correspondence, June 17, 2013)
1037	H. Yuen (email correspondence, Feb. 6, 2015)
1038-1039	<i>Intentionally left blank</i>
1040	Production Plan, July 16, 2013 (“Production Plan”)
1041	Standard 3J - Mod A J3 (“Veeco Source File”)
1042	SIMS D-52 and D-55, May 16, 2013 (“SIMS Document”)
1043	3J on Template - PL Scans, May 5, 2013 (“PL Scan Document”)
1044	Recent J3 Wafers, Dec. 17, 2012 (“Wafer Document”)
1045	3J Results: 29-26 + 28-162 = D-1 Preliminary, Dec. 10, 2012 (“Preliminary 3J Data Document”)
1046	D-78 to D-85 Device Data (100 mm 3Js), June 17, 2013 (“Device Data Document”)
1047	IQE RTA Pyrometer Calibration Results, Nov. 9, 2012
1048	U.S. Patent No. 8,962,993 (“993 Patent”)
1049	H. Yuen (email communication, June 22, 2012)
1050	SJC Documentation Cover Sheet (“Cover Sheet”)
1051	Employee Handbook (March 2012)
1052	R. Pelzel (email communication, Feb. 29, 2012)
1053	Read Me file, June 22, 2012

<b>Exhibit</b>	<b>Description</b>
1054	H. Yuen (email communication, June 21, 2012)
1055	R. Jones-Albertus (email communication, Dec. 28, 2012)
1056	T. Liu (email communication, May 16, 2013)
1057	H. Yuen (email communication, July 15, 2013)
1058	Solar Junction Breaks World Record with 43.5% Efficient CPV Production Cell (press release, April 14, 2011)
1059	Epitaxy Discussion, IQE Diligence Visit, Dec. 19, 2011 (“Tutorial”)
1060	H. Yuen (email communication, June 12, 2012)
1061	C. Santana (email communications, July 25, 2014)
1062	R. Taylor (correspondence, March 16, 2017)
1063	Non-Disclosure Agreement, R. Yanka, Feb. 20, 2012
1064	Non-Disclosure Agreement, R. Pelzel, Feb. 23, 2012
1065	Non-Disclosure Agreement, S. Chung, Feb. 20, 2012
1066	Non-Disclosure Agreement, K. Nunna, Dec. 20, 2012
1067	Non-Disclosure Agreement, H. Williams, Feb. 24, 2012
1068	R. Pelzel, H. Williams (email communications, Feb. 17, 2012)
1069	G. Horsburgh (email communications, March 8, 2012)
1070	RF Manifold Diagram, March 10, 2012
1071	Plasma Manifold Notes and Operation, March 19, 2012
1072	R. Yanka (email communications, March 10, 2014)
1073	Plasma Source Nozzle Designer Requirements

Exhibit	Description
1074 [NEW]	Settlement Agreement – CONFIDENTIAL

Dated: March 1, 2021

By: /Mehran Arjomand/  
Mehran Arjomand  
Registration No.: 48,231  
MORRISON & FOERSTER LLP  
707 Wilshire Boulevard, Suite 6000  
Los Angeles, CA 90017  
Tel: (213) 892-5630  
Fax: (213) 892-5454

**Certificate of Service (37 C.F.R. § 42.6(e)(4))**

I hereby certify that the attached PETITIONER'S UPDATED EXHIBIT LIST was served as of the below date via e-mail to the following counsel of record for the Patent Owner:

Edward J. Kelly  
Scott A. McKeown  
ROPES & GRAY LLP  
[Edward.Kelly@ropesgray.com](mailto:Edward.Kelly@ropesgray.com)  
[Scott.McKeown@ropesgray.com](mailto:Scott.McKeown@ropesgray.com)

Dated: March 1, 2021

By: /Mehran Arjomand/  
Mehran Arjomand  
Registration No.: 48,231  
MORRISON & FOERSTER LLP  
707 Wilshire Boulevard, Suite 6000  
Los Angeles, CA 90017  
Tel: (213) 892-5630  
Fax: (213) 892-5454