1 2 3 4 5 6 7	Shawn E. McDonald (State Bar No. 237580) Adrienne Hunacek Miller (State Bar No. 27460 FOLEY & LARDNER LLP EMAIL: SEMCDONALD@FOLEY.COM EMAIL: AMILLER@FOLEY.COM 975 Page Mill Road Palo Alto, CA 94304-1013 Telephone: (650) 856-3700 Facsimile: (650) 856-3710 Nancy L. Stagg (State Bar No. 157034) Ary Chang (State Bar No. 244247) FOLEY & LARDNER LLP	60)	
8 9 10	EMAIL: NSTAGG@FOLEY.COM EMAIL: ACHANG@FOLEY.COM 3579 Valley Centre Drive, Suite 300 San Diego, CA 92130 Telephone: (858) 847-6700 Facsimile: (858) 792-6773		
11 12 13	FOLEY & LARDNER LLP EMAIL: JVETTER@FOLEY.COM Two South Biscayne Boulevard, Suite 1900 Miami, FL 33131 Telephone: (305) 382-8424	Richard S. Florsheim (Admitted <i>Pro Hac Vice</i>) FOLEY & LARDNER LLP EMAIL: RFLORSHEIM@FOLEY.COM 777 E Wisconsin Avenue Milwaukee, WI 53202-5306 Telephone: (414) 271-2400	
14151617	Facsimile: (305) 482-8600 Attorneys for Plaintiffs AVAGO TECHNOLOGIES U.S. INC., AVAGO TECHNOLOGIES GENERAL IP (SI AVAGO TECHNOLOGIES TRADING LTD., AVAGO TECHNOLOGIES INTERNATIONA	AND	
18	UNITED STATES DISTRICT COURT		
19	NORTHERN DIST	RICT OF CALIFORNIA	
20	SAN JOSE DIVISION		
212223	AVAGO TECHNOLOGIES U.S. INC., AVAGO TECHNOLOGIES GENERAL IP (SINGAPORE) PTE. LTD., AVAGO TECHNOLOGIES TRADING LTD., AND AVAGO TECHNOLOGIES INTERNATIONAL SALES PTE. LTD.,	Case No.: 5:10-CV-02863-EJD (PSG) REQUEST FOR INTERNATIONAL JUDICIAL ASSISTANCE PURSUANT TO THE HAGUE CONVENTION OF 18 MARCH 1970 ON THE TAKING OF EVIDENCE IN	
24	Plaintiffs,	CIVIL OR COMMERCIAL MATTERS	
25	v.	Honorable Paul S. Grewal	
2627	IPTRONICS INC., MELLANOX TECHNOLOGIES DENMARK APS (f/k/a IPTRONICS A/S),		
28	Defendants.		

1	1.	Sender
2		The Honorable Paul S. Grewal
3		United States Magistrate Judge United States District Court for the Northern District of California
4		San Jose Division
		280 South 1 st Street San Jose, CA 95113
5		United States of America
6 7	2.	Central Authority of the Requested State
		Der Präsident
8		des Amtsgerichts Freiburg
9		Holzmarkt 2 79098 Freiburg
10		Germany
11		Telephone: +49 (761) 205-0 Fax: 49 (761) 205-1800
12		E-mail: poststelle@agfreiburg.justiz.bwl.de
		Website: www.amtsgericht-freiburg.de
13	3.	Person to Whom the Executed Request Is to Be Returned
14		Dr. Georg Andreas Rauh
15		Rechtsanwalt Attorney-at-Law
16		Patentanwälte Rechtsanwälte
17		Siebertstrasse 3 81675 München
		Germany
18		Telephone: +49 (0) 89 413 04-0
19		E-mail: g.rauh@vossiusandpartner.com
20	4.	Specification of the Date by Which the Requesting Authority Requires Receipt of the Response to the Letter Request
21		By December 31, 2014, or as soon as reasonably practicable. The U.S. District Court
22		for the Northern District of California has scheduled a procedural hearing on
23		February 5, 2015, for which the parties need to file a statement by January 26, 2015.
24		
25		The evidence cutoff date is March 2, 2015.
26		
27		
28		
	1	

1	IN CONFO	RMITY	Y WITH ARTICLE 3 OF THE CONVENTION, THE UNDERSIGNED
2			THE HONOR TO SUBMIT THE FOLLOWING REQUEST:
3	5.	a.	Requesting Judicial Authority (Art. 3(a))
4			ed States District Court for the Northern District of California
5			South 1 st Street
6			Jose, CA 95113 ed States of America
7		b.	To the Competent Authority of (Art. 3(a))
8		The C	Central Authority of Germany
9		c.	Name of the Case and Any Identifying Number
11			To Technologies Fiber IP (Singapore) Pte. Ltd. v. IPtronics, Inc. and IPtronics Case Number 5:10-CV-02863 EJD (PSG), United States District Court for the
12			hern District of California.
13	6.	Nam	e and Addresses of the Parties and Their Representatives (Art. 3(b))
14		a.	Plaintiffs
15		_	go Technologies Fiber IP (Singapore) Pte. Ltd.
16		Singa	Yishun Avenue 7 apore 768923
17 18		Singa Telep	apore ohone: 65-6755-7888
19		Avag	go Technologies U.S. Inc.
		350 V	West Trimble Road, Building 90 Jose CA 95131
20		USA	
21		Telep	phone: (408) 435-7400
22 23			go Technologies General IP (Singapore) PTE. LTD.
24		Singa Singa	apore, 768923
25			phone: 65-6755-7888
26		_	go Technologies Trading LTD. Floor, IBL House
27		Caud	lan
28		Port I Maur	Louis ritius

1	Avago Technologies International Sales PTE. LTD.
2	1 Yishun Avenue 7
3	Singapore, 768923 Singapore
3	Telephone: 65-6755-7888
4	
5	Counsel for the Plaintiffs
6	John C. Vetter
	Foley & Lardner LLP
7	One South Biscayne Boulevard, Suite 1900 Miami, FL 33151
8	Telephone: (305) 382-8424
0	Facsimile: (305) 482-8600
9	E-mail: JVetter@Foley.com
10	A C1
11	Ary Chang 3579 Valley Centre Drive, Suite 300
	San Diego, CA 92130
12	Telephone: (858) 847-6700
13	Facsimile: (858) 792-6773 E-mail: AChang@Foley.com
	E man. Tremanger orey.com
14	Dr. Georg Andreas Rauh
15	Rechtsanwalt
16	Attorney-at-Law Vossius & Partner
16	Patentanwälte Rechtsanwälte
17	Siebertstrasse 3
1.0	81675 München
18	Germany
19	Telephone: +49 (0) 89 413 04-0
20	E-mail: g.rauh@vossiusandpartner.com
20	Dr. Thure Schubert
21	Rechtsanwalt
22	Attorney-at-Law
22	Vossius & Partner
23	Patentanwälte Rechtsanwälte
24	Siebertstrasse 3 81675 München
24	Germany
25	Telephone: +49 (0) 89 413 04-0
26	E-mail: schubert@vossiusandpartner.com
	b. Defendants
27	b. Detendants
28	IPtronics, Inc.
	1

1	1370 Willow Road 2 nd Floor
2	Menlo Park, California 94025
3	Telephone: 650-681-9653
4	Mellanox Technologies Denmark ApS Ledreborg Allé 130B
5	DK-4000 Roskilde Denmark
6	Telephone: +45 4632 8434
7	
8	Counsel for the Defendants
9	Steven D. Hemminger
	Xavier Brandwajn Alston & Bird LLP
10	1950 University Avenue, 5th Floor
11	East Palo Alto, CA 94303
12	Email: steve.hemminger@alston.com
12	Email: xavier.brandwajn@alston.com
13	Brian Parker Miller
14	Alston & Bird LLP
	1201 W Peachtree St.
15	Atlanta, GA 30309
16	Email: parker.miller@alston.com
	Thomas W. Davison
17	Alston & Bird LLP
18	950 F Street, NW
10	Washington, DC 20004-1404
19	Email: tom.davison@alston.com
20	To the Notice of the December (A. 4. 200)
21	7. a. Nature of the Proceedings (Art. 3(c))
	This is a civil action with claims arising in part under the Patent Laws of the United States,
22	35 U.S.C. § 1 et seq., and, in particular, 35 U.S.C. § 271; under the Trademark Act of 1946, as
23	amended, 15 U.S.C. §§ 1051-1141 (the "Lanham Act"), and in particular 15 U.S.C. § 1125 (§ 43(a)
24	of the Lanham Act); and under the State of California's Uniform Trade Secrets Act §§3426 et seq.
25	b. Summary of the Complaint (Art. 3(c))
26	
27	On June 29, 2010, Avago Technologies Fiber IP (Singapore) Pte. Ltd. ("Avago Fiber IP")
28	filed a Complaint against IPtronics, Inc. and IPtronics A/S (collectively, "IPtronics").

On September 18, 2012, Avago Fiber IP filed its Second Amended and Supplemental ("SASC") complaint to join Avago Technologies U.S. Inc. ("Avago US"), Avago Technologies General IP ("Avago General IP"), Avago Technologies International Sales Pte. Ltd. ("Avago Sales"), and Avago Technologies Trading Ltd. ("Avago Trading") (collectively, "Avago Licensees"), which have exclusive rights in the patents-in-suit to this action. The SASC included the original allegations that IPtronics (i) contributorily infringed and actively induced infringement of one or more claims of United States Patent No. 5,359,447, which Avago Fiber IP owns, and (ii) directly infringed, contributorily infringed, and actively induced infringement of one or more claims of United States Patent No. 6,947,456, which Avago Fiber IP owns. The SASC also added factual allegations and related claims against IPtronics for violations of 15 U.S.C. § 1125 (§ 43(a) of the Lanham Act), misappropriation of trade secrets under the State of California's Uniform Trade Secrets Act §§ 3426 et seq., and unlawful, unfair, or fraudulent business act or practices under California Business & Professional Code § 17200.

Effective October 29, 2012, Avago Fiber IP transferred ownership of the patents-in-suit to Avago General IP, and Avago Fiber IP ceased to exist.

On July 1, 2013, Mellanox Technologies Ltd. acquired defendant IPtronics A/S, now known as Mellanox Technologies Denmark ApS, which becomes a wholly owned subsidiary of Mellanox Technologies Ltd.

c. Summary of Defense (Art. 3(c))

IPtronics has denied Avago's allegations and asserted counterclaims against Avago, including declaratory judgments of non-infringement and invalidity of Avago's patents, breach of contract, fraudulent misrepresentation, and other business tort claims.

8. a. Evidence to Be Obtained (Art. 3(d))

The evidence to be obtained is for use at trial in the action of *Avago Technologies Fiber IP* (*Singapore*) *Pte. Ltd. v. IPtronics, Inc. and IPtronics A/S*; Case Number 5:10-CV-02863 EJD (PSG), United States District Court for the Northern District of California, and includes (i) oral testimony from Dr. Martin Grabherr, Senior Manager Sales & Marketing at Philips Technologie GmbH, U-L-

M Photonics ("ULM"), or his successor in the company, (ii) oral testimony from Mr. Roger King, Senior Manager of Research and Development at ULM, or his successor in the company and (iii) documents from ULM. Schedule A, attached as Exhibit 1 hereto, sets forth a list of questions to be asked of the witnesses and the documents sought. As Schedule A reflects, the evidence sought is limited, relating to the "aperture" on vertical cavity surface emitting lasers ("VCSELs") ULM manufactures and supplies to the United States, and ULM's electronic modeling of such products.

A previous Letter of Request to the Central Authority of Germany ("Central Authority") for International Judicial Assistance Pursuant to the Hague Convention of 18 March 1970 on the Taking of Evidence Abroad in Civil or Commercial Matters ("Letter Request") was issued by the Requesting Authority on September 18, 2012, and the original executed copy sent soon thereafter. On December 6, 2012, the Central Authority requested clarification with respect to certain sections in the Letter Request. On January 2, 2013, Avago filed an Application for the Issuance of Supplemental Request for International Judicial Assistance Pursuant to the Hague Convention of 18 March 1970 on the Taking of Evidence Abroad in Civil or Commercial Matters ("Supplemental Letter Request") to provide the requested clarification. On February 8, 2013, the Requesting Authority issued a Supplemental Letter Request. On February 15, 2013, before the original executed Supplemental Letter Request could be sent to the Central Authority, this case was stayed. The case was reopened on July 23, 2014.

The September 18, 2012 Letter Request is being withdrawn and the Amended Letter Request for International Judicial Assistance Pursuant to the Hague Convention of 18 March 1970 on the Taking of Evidence Abroad in Civil or Commercial Matters ("Amended Letter Request") sent to the Central Authority.

b. Purpose of the Evidence to Be Obtained (Art. 3(d))

Avago seeks evidence from Dr. Martin Grabherr (or his successor in the company) and Mr. Roger King (or his successor in the company), and ULM in connection with its allegations that IPtronics has contributorily infringed and actively induced infringement of one or more claims of

United States Patent Nos. 5,359,447 (the "447 Patent") and 6,947,456 (the "456 Patent"), and directly infringed one or more claims of the '456 Patent.

Evidence to show infringement of the '447 patent

In general terms, the '447 Patent covers the invention of an optical communication system having a VCSEL. A multi-mode optical medium such as an optical fiber is coupled to the VCSEL. A power supply provides a bias current that drives the VCSEL into multiple transverse mode operation, preferably in more than two distinct modes. The VCSEL generates a beam of light that has a lower coherence than that provided by a single-mode laser. This beam of light is modulated with data carried by an incoming signal. The VCSEL preferably has an "aperture" larger than about eight (8) micrometers (microns) through which the modulated light beam is emitted. A true and correct copy of the '447 Patent, which includes a more detailed description of the invention covered, is attached hereto as Exhibit 2.

In its Complaint, Avago alleges that IPtronics has marketed and sold in the United States various driver circuits for VCSELs and components for use in optical communication networks. IPtronics issues publications providing instructions for how to couple these products with VCSELs and an optical coupling medium to provide an optical communication network. Avago has alleged that such optical communication networks infringe the '447 Patent. Specifically, if the optical communication network resulting from the coupling process uses a VCSEL with an aperture that has a diameter of at least 8 microns, then this optical communication network literally infringes the '447 Patent. If the optical communication network resulting from the coupling process uses a VCSEL with an aperture that has a diameter of 8 microns or less, then this optical communication network infringes the '447 Patent by the doctrine of equivalents.

Upon information and belief, the optical communication networks comprised of products from IPtronics utilize VCSELs manufactured by ULM Photonics, as taught by IPtronics. A publicly available document released by IPtronics, entitled "Reference Design," instructs customers how to use ULM's VCSELs with IPtronics' products. A copy of the "Reference Design" document is attached hereto as Exhibit 3. In order to determine whether the optical communication networks

10

1415

1617

18

19

2021

2223

24

25

26 27

28

implicated by the lawsuit literally infringe the '447 Patent, or infringe by the doctrine of equivalents, it is necessary to determine the diameter of the aperture on ULM's VCSELs.

"Aperture" is a term used by persons of skill in the art to refer to the unoxidized portion of a layer in a VCSEL that confines current flow, and thus the path of the light emitted by the active region of a VCSEL. A VCSEL consists of many layers of semiconductor material grown or formed parallel to a substrate. The composition and thicknesses of the various VCSEL layers are specified by an epitaxial recipe. An active region, where light is generated, is located among layers near the VCSEL center. The active region lies between upper and lower mirror stacks. Metal contacts are provided on the top and bottom of the VCSEL so that electrical current can pass through it, and stimulate the electrons of atoms located in the active region so that light can be generated. There are several techniques used to confine this current flow to the desired area of the active region. ULM's VCSELs are "oxide confined," as are many commercial embodiments. The upper and lower mirrors of the VCSELs are made of AlGaAs layers having an optical thickness of 1/4 wavelength of the emitted light. In an oxide confined VCSEL, one of the AlGaAs layers has a higher aluminum content than all of the other layers. When the VCSEL is subjected to heat and steam, the aluminum oxidizes from the outside in. Oxidation is continued until the unoxidized portion in the high aluminum content layer is of the desired dimension. The dimension of this unoxidized portion is what is known as the "aperture" of the VCSEL.

Aperture dimensions can have a range of acceptable values or tolerances. The range of tolerances is caused by acceptable variations in material composition, temperature, properties of the steam, and dimensional tolerances of the VCSEL structure itself. Oxidation of the high AlGaAs layer is a physical process of limited precision. Based on these tolerances and other considerations, manufacturers develop an acceptable range of values for their apertures in which the VCSELs will perform satisfactorily. That range may well be over 10% to 15% of the aperture dimension. For example, if a target aperture is 7.8 microns, an acceptable tolerance may be close to 9 microns.

The evidence sought by Avago through this Letter Request includes the target values and acceptable range of values for the apertures in certain ULM VCSEL products. This information will

aid in determining whether and in what manner the optical communication networks using products from IPtronics infringe Avago's '447 Patent.

Evidence to show infringement of the '456 patent

In general terms, the '456 Patent pertains to laser driver circuits and optical transmitters containing them, that are used to control arrays of VCSELs for high-speed optical data transmission. More specifically, they may be used to "drive" VCSELs in a VCSEL array with respective drive waveforms (also called drive currents or drive current waveforms) that represent the incoming data stream. The inventions of the asserted claims of the '456 patent include "negative peaking" of the electrical signal, which refers to a transient present in the drive waveform during, and sometimes after, the transition from a "high" or "logic 1" level of the electrical drive waveform down to the "low" or "logic 0" of the waveform. An electronic model of the electrical properties of a VCSEL is useful for modeling the behavior of the electrical circuit in which the VCSEL operates. The evidence sought from ULM relating to its electronic models for its VCSELs, related bond wires, and other parasitic circuit elements, will be useful for modeling the electrical behavior of those of the accused products that contain an ULM VCSEL as a part of the proof that such products infringe the '456 Patent. A true and correct copy of the '456 Patent, which includes a more detailed description of the invention covered, is attached hereto as Exhibit 2.

9. Identity of Persons to be Examined (Art. 3(e))

Based upon information available from ULM Photonics' web site, Avago believes one or both of the following ULM employees, and ULM as a corporate entity, may have the requisite knowledge:

Dr. Martin Grabherr (or his successor within the company)
Senior Manager, Sales & Marketing
Philips Technologie GmbH
U-L-M Photonics
Lise-Meitner str. 13
d-89081 Ulm
Germany
Telephone: +49 (0) 731 550194-011

Mr. Roger King (or his successor within the company)

1	Senior Manager of Research and Development
2	Philips Technologie GmbH U-L-M Photonics
3	Lise-Meitner str. 13 d-89081 Ulm
4	Germany Telephone: +49 (0) 731 550194-011
5	<u>Alternatively</u>
6	
7	An officer, director or managing agent, or any other person who consents to testify on ULM's behalf concerning the matters and questions set forth in Schedule A, to be designated by:
8	oy.
9	Philips Technologie GmbH U-L-M Photonics
10	Lise-Meitner str. 13 d-89081 Ulm
11	Germany
12	Telephone: +49 (0) 731 550194-011
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	

4839-0505-3982.1

10. Questions to be Put to the Persons to be Examined or Statement of the Subject-Matter About Which They are to be Examined (Art. 3(f))

A list of questions to be asked of the witnesses is set forth on <u>Schedule A</u>, annexed hereto.

11. Documents or Other Property to be Inspected (Art. 3(g))

The documents to be inspected are set forth on Schedule A, attached. Should ULM fail to produce these documents, it is requested that the Court conducting the taking of evidence requests the production of documents according to § 142 ZPO and, if necessary, applies compulsory measures according to § 390 ZPO.

12. Requirement That the Evidence be Given on Oath or Affirmation (Art. 3(h))

The witnesses should be examined under oath or affirmation.

13. Special Methods or Procedures to be Followed (Art. 3(i) and 9)

This Letter Request includes the following requests:

- That this Letter Request be granted and the evidence-taking proceeding be performed on an expedited basis because the fact discovery cut off in the underlying case is on March 2, 2015;
- That attorneys for the Plaintiff, and, if the Defendants so choose, attorneys for the Defendants be permitted to ask the witnesses additional questions that are related to those questions set forth in <u>Schedule A</u>;
- That an authorized shorthand writer/court reporter be present at the examination who shall record the oral testimony verbatim (in English) and prepare a transcript of the evidence;
- That an authorized shorthand writer/court reporter be present at the examination who shall record the oral testimony verbatim (in German) and prepare a transcript of the evidence;
- That an authorized interpreter be present at the examination who shall translate the questions and oral testimony between German and English;
- That the examinations take place at dates and times as may be agreed upon between the witnesses and counsel for the parties;
- That, to the extent that multiple hearing dates are necessary to complete all the questions in Schedule A and the additional questions related to those questions set forth in Schedule A, the hearings are scheduled on consecutive days or as close to each other as reasonably practicable;

E-mail: g.rauh@vossiusandpartner.com

28

1	Dr. Thure Schubert	
2	Rechtsanwalt	
	Attorney-at-Law Patentanwälte Rechtsanwälte	
3	Siebertstrasse 3	
4	81675 München	
5	Germany Telephone: +49 (0) 89 413 04-0	
6	E-mail: schubert@vossiusandpartner.com	
7	Steven D. Hemminger	
0	Xavier Brandwajn	
8	Alston & Bird LLP 1950 University Avenue, 5th Floor	
9	East Palo Alto, CA 94303	
10	Email: steve.hemminger@alston.com Email: xavier.brandwajn@alston.com	
11	Eman. Xavier.brandwajn@aiston.com	
12	Brian Parker Miller Alston & Bird LLP	
	1201 W Peachtree St.	
13	Atlanta, GA 30309	
14	Email: parker.miller@alston.com	
15	Thomas W. Davison	
16	Alston & Bird LLP	
10	950 F Street, NW Washington, DC 20004-1404	
17	Email: tom.davison@alston.com	
18		
19	15. Request for Attendance of Participation of Judicial Personnel of the Requesting Authority at the Execution of the Letter Request (Art. 8)	
20	No attendance of judicial personnel is requested.	
21	16. Specification of Privilege or Duty to Refuse to Give Evidence Under the Law of	
22	the State of Origin (Art. 11(b))	
23	The privilege or duty of the witnesses to refuse to give evidence shall be the same as if they	
24	were testifying under the applicable provisions of the Federal Rules of Civil Procedure, including it	
25	giving such evidence would (1) subject them to a real and appreciable danger of criminal liability i	
26	the United States, or (2) disclose a confidential and privileged communication between them an	
27	their respective attorneys.	