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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

APPLIED MATERIALS, INC.,
Plaintiff,
vs.
DEMARAY LLC,
Defendant.

CASE NO. 5:20-cv-05676-EJD

**DECLARATION OF JOHN FORSTER
IN SUPPORT OF APPLIED
MATERIALS, INC.'S RESPONSE TO
DEMARAY LLC'S MOTION TO
DISMISS**

FORSTER DECL IN SUPPORT OF

1 I, John Forster, hereby declare as follows:

2 1. I am a Senior Director, Process Engineer for Metal Deposition Products at Applied
3 Materials, Inc. (“Applied”) where I have been employed since October 1993. I have been in this
4 role for approximately 8 years and am a distinguished member of technical staff in Applied’s
5 metal deposition business unit. Prior to this role, I was a senior member of technical staff in the
6 same business unit. I either have personal knowledge of the facts contained in this declaration or
7 they are based on research conducted under my supervision and direction. If called upon to do so,
8 I could and would testify competently to the matters set forth herein.

9 2. I submit this declaration in support of Applied’s Response to Demaray LLC’s Motion to
10 Dismiss.

11 3. I understand that on July 14, 2020, Demaray LLC (“Demaray”) filed patent infringement
12 suits against Applied’s customers, Intel Corporation (“Intel”) and multiple Samsung entities
13 (collectively, “Samsung”) in the Western District of Texas, and has identified Applied’s Endura
14 product line (specifically “reactors that can be configured for deposition of TaN layers (*e.g.*,
15 CuBS RFX PVD [*sic*] with the Encore II Ta(N) barrier chamber) and TiN (*e.g.*, Cirrus ionized
16 PVD chamber)”) in its complaints against Intel and Samsung (“Customer Complaints”).

17 4. I further understand that the Customer Complaints allege that Intel and Samsung infringe
18 U.S. Patent Nos. 7,544,276 and 7,381,657 (“Asserted Patents”) based on their purported use of
19 reactive magnetron sputtering (“RMS”) reactors, including the above mentioned Applied reactors
20 in Applied’s Endura product line, purportedly using pulsed DC power for physical vapor
21 deposition (“PVD”) of metal layers, identifying titanium nitride and tantalum nitride, in Intel’s
22 and Samsung’s semiconductor products. I further understand that the Customer Complaints
23 allege that Intel and Samsung each “configures, or causes to be configured the [Intel/Samsung]
24 RMS reactors such that they compromise a narrow band-rejection filter that rejects at a frequency
25 of the RF bias power supply coupled between the pulsed DC power supply and the target area”
26 and that this filter is used to “protect the pulsed DC power supply from feedback from the RF bias
27 power supply.”
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FORSTER DECL. IN SUPPORT OF

1 5. Prior to July 24, 2020, I reviewed the Asserted Patents and the allegations against Intel
2 and Samsung in the Customer Complaints. Based on my review of the Customer Complaints, I
3 understood that Demaray was making an implied assertion of infringement of the Asserted
4 Patents against Applied. The Customer Complaints rely exclusively on Applied's products,
5 materials, literature and website. In my review of the Customer Complaints, I did not find any
6 reference to RMS reactors other than the reactors from Applied's Endura product line. Nor did I
7 find any evidence or specific allegations in the Customer Complaints that Intel or Samsung
8 modify the RMS reactors that Applied designs, manufactures and configures for its customers
9 after the RMS reactors are installed at the customers' respective fabrication facilities.

10 6. To the extent that Demaray alleges that Intel or Samsung perform post-installation
11 modifications to the Endura reactors from Applied by, for example, adding its own filter between
12 the DC power supply and the target, this would be inconsistent with my understanding of the
13 ordinary process by which Applied supplies RMS reactors to its customers. Customers like Intel
14 and Samsung typically provide Applied with a set of specifications for a type of film they would
15 like to deposit, and based on those specifications, Applied manufactures and configures the RMS
16 reactors to deposit films according to the customers' specifications. Post-installation
17 modifications, such as modifying the power supply or adding an additional component, such as a
18 filter, to the system as installed by Applied, could, for example, cause the RMS reactor to no
19 longer meet the customers' required specifications or impact the warranty of the reactor.

20 7. I understand that Demaray has stated in its Motion to Dismiss at page 5 that it "relied on
21 reverse engineering of Intel and Samsung products suggesting Intel's and Samsung's use of the
22 infringing reactor configurations" which include "a narrow band-rejection filter that rejects at a
23 frequency of the RF bias power supply coupled between the pulsed DC power supply and the
24 target area". In my review of the Customer Complaints, I did not find any reference to reverse
25 engineering reports or any explanation as to how reverse engineering of Intel and Samsung
26 products would evidence that Samsung and Intel "configure" the Applied reactors after they have
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1 been manufactured, configured, and installed by Applied to purportedly include this narrow band-
2 rejection filter.

3 8. I understand that Demaray's purported reverse engineering reports have not been provided
4 to Applied or the Court in this case, and thus, I have not had an opportunity to review them.
5 However, based on my over thirty years of experience working in the field of semiconductor
6 process engineering, I am unaware of how the information I would expect to be found in a reverse
7 engineering report of a semiconductor product, such as cross-section images of the different
8 layers of the product and its material characteristics, would inform a person knowledgeable in this
9 industry, such as myself or Dr. Demaray, that Intel and Samsung added its own narrow-band
10 rejection filter between the DC pulsed power supply and target area.

11 9. For these reasons, after Applied reviewed the allegations in the Customer Complaints
12 against Intel and Samsung, Applied interpreted those allegations as directed at Samsung and
13 Intel's use of the reactors as manufactured, configured and installed by Applied.

14 10. Applied does not believe the RMS reactors identified in the Customer Complaints for
15 depositing titanium nitride and tantalum infringe the Asserted Patents, because, for example,
16 those reactors do not include a pulsed DC power supply coupled to the target area or provide
17 pulsed DC power to the target area. However, based on Applied's belief that the allegations in
18 the Customer Complaints were an implied assertion of infringement against Applied, I understand
19 that Applied filed a declaratory judgment action of non-infringement of the Asserted Patents on
20 August 13, 2020.

21 I declare under penalty of perjury that the foregoing is true and correct. Executed on
22 December 7, 2020.

23
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25 By: _____

26 
27 John Forster
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