IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VISIONSENSE CORPORATION

Petitioner,

v.

Patent Owner of

U.S. Patent No. 8,892,190

IPR Trial No. TBD

DECLARATION OF DAVID J. LANGER, M.D.,
IN SUPPORT PETITION FOR *INTER PARTES* REVIEW OF

U.S. Patent No. 8,892,190

DECLARATION OF DAVID J. LANGER, M.D.,
IN SUPPORT OF VISIONSENSE CORPORATION'S
PETITION FOR *INTER PARTES* REVIEW

1) My name is David J. Langer. I am the Chairman of Neurosurgery at Lenox Hill Hospital in New York City. I am also a Professor of Neurological Surgery at Hofstra University School of Medicine. I make this declaration in support of Visionsense Corporation's ("Petitioner" or "Visionsense") petition for *Inter Partes* Review ("IPR") of U.S. Patent No. 8,892,190 (the "'190 Patent"). My current *curriculum vitae* is attached. Some highlights follow.

2) After I earned my M.D. from the University of Pennsylvania School of Medicine (1991), I did an internship in General Surgery at the Hospital of the University of Pennsylvania (1991-1992) and then served as Resident in Neurological Surgery, also at the Hospital of the University of Pennsylvania (1992-1998). I then became a Neurovascular Fellow and the Institute of Neurology and Neurosurgery at the Beth Israel North Medical Center (1998-1999).

3) I was an Attending Neurosurgeon at the Institute of Neurology and Neurosurgery Beth Israel Singer Medical Center (1999-2004), after which I was appointed Attending Neurosurgeon/ Director of Cerebrovascular Neurosurgery at St. Lukes/Roosevelt Hospital Medical

Center (2004). I was appointed Associate Adjunct Surgeon in the Department of Otolaryngology, New York Eye and Ear Infirmary (2005) and Attending Neurosurgeon at Long Island College Hospital (2005).

4) I completed a fellowship in Interventional Neuroradiology at SUNY Buffalo in 2010.

5) I was appointed to my current role as Chairman of Neurosurgery at Lenox Hill Hospital in New York City in 2016. I became Professor of Neurological Surgery in at Hofstra University School of Medicine in 2015.

6) I have authored more than twenty papers, published in leading neurosurgery journals. A full list of my publications is attached.

7) I currently serve as a clinical advisor to Sony/Olympus in their video microscope device development program.

8) I currently use ICG-based fluorescence imaging in my clinical practice for verification of vessel grafts using a Leica microscope.

9) I am familiar with the content of the '190 Patent. In addition, I have considered the various documents referenced in this declaration as well as additional background materials.

10) Counsel has informed me that I should consider these materials through the lens of one of ordinary skill in the art related to the '190 Patent

as of its effective filing date, and I have done so during my review of these materials. I believe one of ordinary in the art as of the effective filing date (which I am informed is September 24, 1999) would be a medical doctor with 2-3 years' experience using or designing imaging equipment for use during medical procedures. I base this on my own personal experience, including my knowledge of colleagues and others.

11) I have no financial interest in either party or in the outcome of this proceeding. I am being compensated for my work as an expert on an hourly basis. My compensation is not dependent on the outcome of these proceedings or the content of my opinions.

12) My opinions are based on my education, experience and background in the fields discussed above.

13) For convenience, in this declaration, I refer to a number of publications, either by an exhibit number, or by an abbreviation, as set forth in the below table.

Exhibit	Description	Abbreviation
1001	U.S. Patent No. 8,892,190. "Method and apparatus for performing intra-operative angiography," filed March 13, 2012.	'190 Patent
1002	Little, John R., et al. "Superficial temporal artery to middle cerebral artery anastomosis: intraoperative evaluation by fluorescein angiography and xenon-133 clearance." Journal of neurosurgery 50.5 (1979): 560-569.	Little

1003	U.S. Patent 6,351,663. "Methods for diagnosing and treating conditions associated with abnormal vasculature using fluorescent dye angiography and dye-enhanced photocoagulation," filed September 10, 1999.	Flower I
1004	Japanese Laid Open Patent Publication No. H9-309845 (Translation). "NEAR-INFRED FLUORESCENT TRACER AND FLUORESCENE IMAGING METHOD," filed May 21, 1996.	Jibu
1005	U.S. Patent No. 5,394,199. "Methods and apparatus for improved visualization of choroidal blood flow and aberrant vascular structures in the eye using fluorescent dye angiography," filed May 17, 1993.	Flower II
1006	Specification of Argus 20 with C2400-75i, dated May 1997	Argus 20 Specification
1007	Goldstein et al., "Intraoperative Angiography to Assess Graft Patency After Minimally Invasive Coronary Bypass," Ann Thorax Surg, 66: 1978-1982, (1998).	Goldstein
1008	Eren, Serdar, et al. "Assessment of microcirculation of an axial skin flap using indocyanine green fluorescence angiography." Plastic and reconstructive surgery 96.7 (1995): 1636-1649	Eren
1009	Decision of European Patent Office Technical Board of Appeal revoking Counterpart Patent No. 1143852	EPO Decision
1010	Translation of Decision of Japanese Patent Office Trial Board revoking Counterpart Patent No. 3,881,550	JPO Decision
1011	Summary of Invention Submitted to European Patent Office	Invention Summary
1012	Novadaq 510K showing X-Ray Fluoroscopy as Predicate Device	510K
1013	Takayama et al., Intraoperative Coronary Angiography Using Fluorescein, Ann Thorac Surg. 51:140-143 (1991)	Takayama

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