## UNITED STATES PATENT AND TRADEMARK OFFICE

#### BEFORE THE PATENT TRIAL AND APPEAL BOARD

K/S HIMPP, Petitioner

V.

III HOLDINGS 4, LLC, Patent Owner

Case No. IPR2017-00783 Patent No. 9,191,756

## **DECLARATION OF ROBERT K. MORROW Ph.D.**

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1. My name is Robert K. Morrow. I have been retained by counsel for K/S HIMPP to serve as a technical expert in this *Inter Partes* review proceeding. I have been asked to provide expert testimony in this declaration regarding the patentability of claims 1-20 of the 9,191,756 Patent ("the '756 patent").

#### I. BACKGROUND

2. I received a Bachelor's Degree from the United States Air Force Academy in 1974, a Master's Degree from Stanford University in 1982, and a PhD degree from Purdue University in 1988, all in electrical engineering. My PhD dissertation introduces an improved Gaussian approximation for calculating bit error rates in direct-sequence spread-spectrum communication systems.

3. I am the president of Morrow Technical Services, a business that teaches short courses in wireless engineering, manufactures and distributes collimation enhancement tools for astronomical telescopes, and provides expert services in wireless communication systems.

4. During my 20-year career in the United States Air Force from 1974 to 1994, I was a Tenured Associate Professor of Electrical Engineering and the Director of Research at the United States Air Force Academy, and Deputy Head of the Department of Electrical and Computer Engineering at the Air Force Institute of

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