

**UNITED STATES PATENT AND TRADEMARK OFFICE**

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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Huawei Device Co., LTD.,  
Petitioner,

v.

Fundamental Innovation Systems International LLC,  
Patent Owner.

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Case IPR2018-00485  
Patent No. 7,834,586

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**DECLARATION OF DR. KENNETH FERNALD IN SUPPORT OF  
PATENT OWNER'S PRELIMINARY RESPONSE**

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## I. INTRODUCTION

1. My name is Kenneth Fernald, Ph.D. My qualifications are summarized below and are addressed more fully in my CV attached as EXHIBIT A.

2. For 30-years I have been involved in the design of integrated circuits. A large portion of my work has involved the design of integrated circuits that involve power management, battery charging and USB control. I have designed USB controllers that have sold in the hundreds of millions of units, and I was intimately involved in this field during the time of the patents at issue in this case.

3. I earned my Bachelor of Science and Master of Science degrees in Electrical Engineering from North Carolina State University (NCSU) in 1985 and 1987. During this period I worked for the Space Electronics Group developing software for predicting the effects of radiation environments on integrated circuits. I also consulted for the Naval Research Laboratory (NRL). My services to NRL included the design of dosimetry instrumentation and the execution of radiation studies on electronic devices at various facilities around the United States. I joined NASA Langley Research Center in 1987 where I designed motor control instruments and firmware for ground and space station experiments.

4. I returned to NCSU in 1988 to earn my Ph.D. in Electrical

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