

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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FITBIT, INC.,  
Petitioner,

v.

BLACKBIRD TECH LLC d/b/a BLACKBIRD TECHNOLOGIES,  
Patent Owner.

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Case IPR2017-02012  
Patent 6,434,212

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**DECLARATION OF MICHAEL CALOYANNIDES, PH.D., IN SUPPORT  
OF PATENT OWNER'S RESPONSE TO PETITION**

## I. INTRODUCTION

1. I, Dr. Michael Caloyannides, have been retained by Patent Owner Blackbird Tech LLC d/b/a Blackbird Technologies (“Blackbird” or “Patent Owner”) to provide my opinions in support of their Response to the Petition for *Inter Partes* Review of U.S. Patent No. 6,434,212 to Pyles, issued on August 13, 2002 (“’212 Patent,” Ex. 1001) pursuant to the legal standards set forth below. I am being compensated for my time at the rate of \$200 per hour for time spent on both non-deposition tasks and for deposition time. I have no interest in the outcome of this proceeding, and no part of my compensation is contingent upon the outcome of this proceeding.

2. I have also been asked to provide my technical review, analysis, insights, and opinions regarding the Declaration of Dr. Tanzeem Choudhury (“Choudhury Declaration,” Ex. 1005) on the patentability of claims 2, 5, and 6 of the ‘212 patent and Fitbit, Inc.’s (“Petitioner” or “Fitbit”) Petition that relies on the Choudhury Declaration. I have also reviewed the deposition transcript of Dr. Choudhury from July 13, 2018 (Ex. 2003).

3. In preparing this Declaration, I have also reviewed U.S. Patent No. 6,241,684 to Amano et al. (“Amano,” Ex. 1003) and U.S. Patent No. 6,145,389 to 5,033,013 to Kato et al. (“Kato,” Ex. 1001).

4. I have also reviewed portions of the file history of the ‘212 patent (Ex.

1002), and its parent, U.S. Patent No. 6,175,608 (Ex. 1006) as well as other documents referenced below in this Declaration.

5. This declaration sets forth the opinions I have formed in this case based on my study of the evidence, my understanding as an expert in the field, and my education, training, research, knowledge, and personal and professional experience.

## **II. BACKGROUND AND QUALIFICATIONS**

6. Until very recently, I was Senior Scientist for TASC, Inc., a technology company located in Northern Virginia, and since December 2013, I am an independent consultant in the fields of telecommunications, radar, radio navigation, signal processing, and Information Technologies. I am also an adjunct professor at both Johns Hopkins University and George Washington University. I have also been a consultant to NASA/NIAC for approximately ten years.

7. I believe that I am well qualified to serve as a technical expert in this matter based upon my educational and work experience.

8. Until mid-December 2013, I was employed by TASC, Inc. as a Senior Scientist. TASC, Inc. is a northern Virginia-based consulting firm providing cutting-edge technological, scientific, management and security solutions to the US Federal Government in general and to the US Intelligence Community in particular. That firm specialized in the following areas: Analog and digital telecommunications and design and testing of transmitters and receivers for such telecommunication; radio navigation;

signal processing; mathematical solutions to a broad spectrum of technological problems; telecommunications through all media and channels; Advanced Physical Security; Computer Forensics; Rapid Response Program Management; Avionics, and Database and Software Engineering. As Senior Scientist at TASC, I contributed to many of the firm's numerous scientific and technological efforts in the above fields, specifically including an assessment of transmitters and receivers for telecommunications and the evolving cellular infrastructure.

9. I also currently serve as adjunct faculty to George Washington and Johns Hopkins Universities, a position I have held for numerous years.

10. I received a Ph.D. in Electrical Engineering, Applied Mathematics and Philosophy from the California Institute of Technology ("Caltech") in 1972. I also hold an M.S. in Electrical Engineering ('68) and a BSc in Science with honors ('67), both awarded by Caltech.

11. Immediately prior to joining TASC, Inc., I was the Chief Scientist for Ideal Innovations, Inc. ("I-3"), a Northern Virginia technology solutions provider to the US Government. During my two year employment with I3, that company was recognized as one of the fastest growing companies in the United States.

12. Prior to joining I-3, I worked from 1999 to 2006 as a Senior Fellow with Mitretek Systems (now renamed Noblis), a Washington, DC area "think tank" in mathematical analyses and solutions to various aspects of telecommunications of

voice, video, data, and telemetry, including RF technologies, cellular telecom, digital networks, computer forensics, radar, radio navigation, and related aspects of the broad discipline of telecommunications.

13. From 1998 to 1999 I worked for Boeing Corp., which is primarily a Systems Integrator for complex electronics, as a Senior Scientist. I was responsible for managing Boeing's entry into the commercial information technology business as well as the broadband commercial satellite telecommunications industry for aircraft. I also maintained technical oversight of the U.S. Department of Defense's satellite-based location-tracking of all Army mobile platforms, specifically including the design, analysis and testing of transmitters and receivers.

14. From 1984 to 1998, I was a Senior Scientist (SIS-3 senior executive level) for a U.S. Government agency. Half that time was spent leading the technical oversight of field operations, while I served as Chief Scientist in the Research & Development division for the remaining 7 years. I supervised the technical and strategic aspects of most new technical developments in a wide spectrum of fields, including:

- Analog and digital telecommunications.
- Radar and radio navigation.
- Covert communications.
- Signal exploitation: interception, spoofing.

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