

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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JIawei TECHNOLOGY (HK) LTD., JIawei TECHNOLOGY (USA) LTD.,  
SHENZHEN JIawei PHOTOVOLTAIC LIGHTING CO., LTD., ATICO  
INTERNATIONAL (ASIA) LTD., ATICO INTERNATIONAL USA, INC.,  
CHIEN LUEN INDUSTRIES CO., LTD., INC. (CHIEN LUEN FLORIDA),  
CHIEN LUEN INDUSTRIES CO., LTD., INC. (CHIEN LUEN CHINA),  
COLEMAN CABLE, LLC, NATURE'S MARK, RITE AID CORP., SMART  
SOLAR, INC., AND TEST RITE PRODUCTS CORP.,  
Petitioner,

v.

SIMON NICHOLAS RICHMOND,  
Patent Owner.

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U.S. Patent No. 7,429,827 to Richmond.  
IPR Case No. Unassigned

**DECLARATION OF PETER W. SHACKLE, PH.D.,  
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW**

## **I. INTRODUCTION**

### **A. Engagement**

1. My name is Peter W. Shackle. I have been retained by counsel for Petitioners as an expert witness in the above-captioned proceeding. I have been asked to provide analysis and my opinion about the state of the art of the technology described in U.S. Patent No. 7,429,827 (the '827 Patent") and on the patentability of claims 31–34 ("the challenged claims") of the '827 patent.

### **B. Background and Qualifications**

2. I reside at 112 Aspen Way, Rolling Hills Estates, CA 90274. I hold a bachelor's degree in physics from the University of Birmingham (United Kingdom) and a Ph.D. in physics from the University of Cambridge (United Kingdom).

3. I have over twenty years' experience in lighting electronics, with particular emphasis on light emitting diode ("LED") drivers and electronic ballasts. I am the President of Photalume, a consulting company I founded in 2012. Before that, I was Director of Power Supply Products at Light-Based Technologies, and I also served as Chief Technology Officer for Lightech Electronics, Inc. Additionally, I held vice president positions at Fulham Co, Inc., Universal Lighting Technologies, and Robertson Worldwide.

4. I am an elected senior life member of the Institute of Electrical and Electronics Engineers, and I am a member of the Illuminating Engineering Society.

5. While I am an expert in many areas of electrical engineering, I am not an expert computer scientist. However, during the relevant timeframe, I had ordinary skill in programming computers and have written computer programs. In addition, I frequently work with or supervise computer programmers having ordinary or expert skill. Therefore, I am familiar with the ordinary skill necessary to implement the lighting device of the '827 patent.

6. My testimony on below is from the point of view of the person of ordinary skill in the art, despite the fact that I am an expert in several areas.

7. I am a named inventor of fifty-five U.S. patents, and I have three patent applications pending before the U.S. Patent and Trademark Office. I have also authored eight publications in refereed journals and nine publications in trade journals, the most recent of which pertains to LED technology. My *curriculum vitae* is attached as Appendix A.

### **C. Compensation and Prior Testimony**

8. I am being compensated at a rate of \$350 per hour to provide analysis and testimony in this *inter partes* review proceeding. My compensation is not contingent on the outcome of any matter or the specifics of my testimony. I have no financial interest in the Petition.

9. I have previously provided expert testimony in one other patent-related matter. My *curriculum vitae* discloses the details of this activity.

## **D. Materials and Information Considered**

10. My findings are based on my years of education, research, experience, and background in the fields discussed above, and my investigation and study of relevant materials. In forming my opinions, I have considered the materials I identify in this declaration and those are listed in Appendix B.

11. I know of information generally available to, and relied upon by, persons of ordinary skill in the art at the relevant times, including technical dictionaries and technical reference materials (including textbooks, manuals, technical papers and articles); some of my statements below are expressly based on such awareness.

12. Due to procedural limitations for *inter partes* reviews, the grounds of unpatentability discussed are based solely on prior patents and other printed publications. I understand that Petitioner reserves all rights to assert other grounds for unpatentability or invalidity, not addressed herein, at a later time. Thus, the absence of discussion of such matters here should not be taken as indicating there are no such additional grounds for unpatentability and invalidity of the '827 patent.

## **II. LEGAL STANDARDS FOR PATENTABILITY**

### **A. General**

13. In expressing my opinions and considering the subject matter of the challenged claims of the '827 patent, I am relying upon certain basic legal principles provided.

14. I understand that in this proceeding Petitioners must prove that the challenged claims of the '827 patent are unpatentable by a preponderance of the evidence. I understand that under “a preponderance of the evidence” standard, Petitioners must show that a fact is more likely true than it is not.

15. I understand that for an invention claimed in a patent to be found patentable, it must be, among other things, new and not obvious from what was known before the invention was made.

16. I understand the information used to evaluate whether a claimed invention is patentable is generally referred to as “prior art” and includes patents and printed publications (*e.g.*, books, journal publications, articles on websites, product manuals, etc.).

17. I understand there are two ways in which prior art may render a patent claim unpatentable. First, the prior art can be shown to “anticipate” the claim. Second, the prior art can be shown to have made the claim “obvious” to a person of ordinary skill in the art. My understanding of the two legal standards is set forth below.

**B. Priority Dates for Claimed Subject Matter**

18. I understand that to be considered “prior art,” patents or printed publications must predate the priority dates for the subject matter claimed in the '827 patent.

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