

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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PEAG LLC (d/b/a JLab Audio), AUDIO PARTNERSHIP LLC and  
AUDIO PARTNERSHIP PLC (d/b/a Cambridge Audio)  
Petitioners

v.

VARTA MICROBATTERY GMBH,  
Patent Owner

Patent Nos.  
9,153,835

IPRs  
IPR2020-01212

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**DECLARATION OF PHILIPP MIEHLICH**

I, Philipp Miehlich, provide this Declaration in support of the patentability of the claims under review in IPRs Nos. 2020-01211, 01212, 01213 and 01214. I have first-hand knowledge of the development and commercialization of VARTA's button cells made in accordance with its U.S. Patents Nos. 9,153,835, 9,496,581, 9,799,913 and 9,799,858. In particular, I have first-hand knowledge of the commercial success VARTA's patented button cells have enjoyed and the copying of these cells by other battery manufacturers.

## **I. INTRODUCTION**

1. I have been employed by VARTA Microbattery GmbH and related companies ("VARTA") since 1991, principally in the area of Marketing & Sales.

2. I hold a Dipl. Wirt. Ing.-FH degree awarded in 1986 at Aalen, Baden Wuerttemberg, Germany by Fachhochschule Aalen / University for Applied Science.

3. Among the positions I have held at VARTA are General Manager OEM and General Manager for the Entertainment & Industrial Business Unit.

4. In 2008-2009, I held the position of Product Manager, OEM at VARTA. My responsibilities included market analysis, competitor benchmarking, new product definition & development, sales, and customer support.

5. I participated in the discussions leading to the approval of a request for funding to develop the patented button cells here in issue. I monitored and

provided input to that R&D effort. I was subsequently involved in the marketing and sales of VARTA's CoinPower® button cells that are covered by the patents here under review.

6. Over my career, I have participated in a number of seminars all over the world relating to battery technologies. I, together with other inventors, hold a German Utility Model in the field of lithium-ion battery pack design, which was granted in 2006.

7. I receive no special compensation in connection with my preparation and submission of this declaration, nor do I receive any special compensation for any other support I am providing to VARTA's defense of its patent portfolio. None of my compensation is contingent on, nor do I have any monetary interests in, the outcome of these proceedings.

8. I am generally familiar with the VARTA patents here under review. I have also been generally acquainted with the substance of IPR Petitions submitted in these proceedings, the Institution Decisions of 6 January 2021, the Declaration of Mr. Gardner submitted by petitioners in these proceedings, and to a lesser extent the Kobayashi, Kaun, Ryou, and Kwan references petitioners here claim render the VARTA inventions unpatentable.

9. I am not familiar with U.S. legal proceedings generally, nor with *Inter Partes* Review proceedings specifically. However, I believe I have a broad,

general understanding of a patent and its functions, and to at least some extent, the arguments made in these proceedings by our opponents in their effort to render the VARTA patents invalid.

## II. SUMMARY OF MY DECLARATION

10. I provide information on VARTA, the company; the inventions of the VARTA patents under review in these proceedings, including, *e.g.*, the initial skepticism by VARTA's own experts to engage in the research; the unexpected performance stemming from the novel structure of the patented cells; their commercial success; recognitions VARTA has received for the patented cells; and copying of VARTA's patented technology.

11. Founded in 1904, VARTA is a renowned German company headquartered in Ellwangen, Baden Württemberg. With about 4000 employees, it is long-time world leader in battery technology, including button cell technology. In 2020, VARTA manufactured and sold well over 3 billion cells of various types.

12. In 2008, after returning from extensive assignments in the battery field in VARTA's subsidiaries in Asia, two VARTA employees, Dr. Lindner and Mr. Barenthin, proposed a project to develop a new button cell with a smaller footprint but much higher performance level than was available at the time.

13. Their proposal was received with a great deal of reservation among VARTA's battery experts and corporate management. A number of our colleagues

doubted the project could succeed technologically, and even if it did, were skeptical that a market for such a cell would exist. I supported the proposal.

14. VARTA eventually approved the project and it commenced. After about a year and a half of research and development, and expenditures of several million Euro, the inventors succeeded in developing a new button cell with the characteristics they had targeted.

15. The new cell consisted of a “jelly roll”<sup>1</sup> electrode coil packed tightly into an uncrimped, button-like housing. The electrode coil was protected against short-circuiting by insulating means, and was connected to the cell terminals by flexible flat foil conductors resting flat between the electrode top and housing, and welded to the housing components from the outside. These features are all found in the claims of the VARTA patents here under review.

16. The new cell unexpectedly provided unprecedented increases in performance, including in energy density, charge capacity, and cycling stability. I have been active in the field of button cell technology for over 20 years. I had not previously seen such a jump in performance - on the order of 30% in energy density alone – with the arrival of a new cell.

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<sup>1</sup> By “jelly roll” electrode, I refer to a thin electrode strips wound up in the form of a spiral-shaped winding, placed in the housing with the strips perpendicular to the housing terminals, all as described in the VARTA patents here under review.

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