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**UNITED STATES PATENT AND TRADEMARK OFFICE**

PATENT: 7,916,781  
INVENTORS: JIN HUI, AAMOD KHANDEKAR, ROBERT J. McELIECE  
FILED: JUNE 30, 2008  
ISSUED: MARCH 29, 2011  
TITLE: SERIAL CONCATENATION OF INTERLEAVED  
CONVOLUTIONAL CODES FORMING TURBO-LIKE  
CODES

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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Apple Inc.  
Petitioner

v.

California Institute of Technology  
Patent Owner

Case IPR2017-00423

**PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 7,916,781  
UNDER 35 U.S.C. § 312 AND 37 C.F.R. § 42.104**

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**I. MANDATORY NOTICES**

**A. Real Party-in-Interest**

Apple Inc. (“Apple” or “Petitioner”) and Broadcom Corp. are the real parties-in-interest.

**B. Related Matters**

U.S. Pat. No. 7,916,781 (the “’781 patent,” Ex. 1101) is assigned to the California Institute of Technology (“Caltech” or “Patent Owner.”) On May 26, 2016, Caltech sued Apple, Broadcom Corp., and Avago Technologies, Ltd. in the U.S. District Court for the Central District of California, claiming that Apple products compliant with the 802.11n and 802.11ac wireless communication standards infringe the ’781 patent (and three others). On August 15, 2016, Caltech amended its complaint to assert patent infringement against Cypress Semiconductor Corp. *See* Amended Complaint, *California Institute of Technology v. Broadcom, Ltd. et al.* (Case 2:16-cv-03714), Docket No. 36. The ’781 patent was also asserted by Caltech against Hughes Communications Inc. in *California Institute of Technology v. Hughes Communs., Inc* (Case 2:13-cv-07245), and its claims were challenged in one petition for *inter partes* review, IPR2015-00059. Patents in the priority chain of the ’781 patent were challenged in IPR2015-00068, IPR 2015-00067, IPR2015-00060, IPR2015-00061, and IPR-2015-00081.

**C. Counsel**

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**II. CERTIFICATION OF GROUNDS FOR STANDING**

Petitioner certifies pursuant to Rule 42.104(a) that the patent for which review is sought is available for *inter partes* review and that Petitioner is not barred or estopped from requesting an *inter partes* review challenging the patent claims on the grounds identified in this Petition.

**III. OVERVIEW OF CHALLENGE AND RELIEF REQUESTED**

Pursuant to Rules 42.22(a)(1) and 42.104(b)(1)-(2), Petitioner challenges claims 13-22 of the '781 Patent (“the challenged claims”) and requests that each challenged claim be canceled.<sup>1</sup>

**A. Prior Art Patents and Printed Publications**

Petitioner relies upon the patents and printed publications listed in the Table of Exhibits, including:

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<sup>1</sup> Petitioner has filed a second petition challenging claims 3-12 and 19-21 of the '781 patent, which is also dated December 12, 2016.

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