

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,

Petitioner,

v.

APEX BEAM TECHNOLOGIES, LLC,

Patent Owner.

Patent No. 10,986,695

Filing Date: November 7, 2020

Issue Date: April 20, 2021

Inventor: Alireza Babaei

Title: UPLINK CANCELLATION INDICATION SIGNALING

PATENT OWNER'S PRELIMINARY RESPONSE

Case No. IPR2025-00909

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EXHIBIT LIST

Exhibit No.	Description of Document
2001	Scheduling Order, Dkt. 40, <i>Apex Beam Techs. LLC v. Apple Inc.</i> , Case No. 6:24-cv-00223-ADA (W.D. Tex. June 18, 2025)
2002	Apex Beam Technologies LLC's Infringement Contentions and P.R. 3-1 and 3-2 Disclosures in <i>Apex Beam Techs. LLC v. Apple Inc.</i> , Case No. 6:24-cv-00223-ADA (W.D. Tex.), dated May 27, 2025
2003	Complaint, Dkt. 1, <i>Apex Beam Techs. LLC v. Apple Inc.</i> , Case No. 6:24-cv-00223-ADA (W.D. Tex. April 29, 2024)

I. INTRODUCTION

On April 25, 2025, Apple, Inc. (“Apple” or “Petitioner”) filed a Petition requesting *inter partes* review of Claims 1-20 (the “Challenged Claims”) of U.S. Patent No. 10,986,695 (“the ’695 Patent”) (APPLE-1001). Paper 2 (“Petition” or “Pet.”). The Declaration of Dr. Robert Akl (APPLE-1003) accompanied the Petition. The Petition asserts that (i) APPLE-1004, US 11,930,485 (“Ying”) in view of APPLE-1016, US 2020/0359447A1 to Yang et al. (“Yang”); (ii) Ying alone; and (iii) APPLE-1007, Certified English translation of International Publication of WO2019/194589A1 (“Kim”) in view of APPLE-1008, US Patent Application Publication 2022/0217736A1 (“Boroujeni”) render obvious the Challenged Claims. Pet. at 1. On May 16, 2025, the Board issued a Notice of Filing Date Accorded for the Petition and set the time for filing patent owner’s preliminary response. Paper 5.

The Board should deny Apple’s Petition because all of Apple’s Grounds fail to address the limitation, “receiving, by a wireless device, uplink cancellation configuration parameters ***comprising***: a cancellation indication radio network temporary identifier (RNTI); and a sequence of serving cell-specific parameters . . . ,” and advances no support to show that the limitations are disclosed or rendered obvious. At most, the Petition asserts that the proposed combinations separately disclose receiving configuration parameters, an RNTI, and serving cell-specific

parameters. But the Petition does not address the requirement that the configuration parameters *comprise* the RNTI and the serving cell-specific parameters, let alone advance any support for that proposition.

Having failed to address a limitation, Apple cannot show a reasonable likelihood that it would prevail with regard to any of the Challenged Claims. Institution should be denied.

II. CLAIM CONSTRUCTION

For the purposes of this Preliminary Response only, Patent Owner believes that claim construction is not required to resolve any issues. Pet. at 6-7.

III. LEVEL OF ORDINARY SKILL IN THE ART

For the purposes of this Preliminary Response only, Patent Owner utilizes Petitioner's proposed level of skill in the art—"a bachelor's degree in electrical engineering, computer engineering, computer science, or a similar field, along with two years of experience designing or developing wireless networks, including long-term evolution LTE/4G or 5G new radio (NR) cellular technology. Additional years of experience could substitute for an advanced-level degree (and vice versa)." Pet. at 6 (citations omitted).

IV. ARGUMENT

A. GROUND 1A: Ying in View of Yang Does Not Render Obvious Claims 1-20

1. Apple's Combination Does Not Disclose "*receiving, by a wireless device, uplink cancellation configuration parameters comprising: a cancellation indication radio network temporary identifier (RNTI); and a sequence of serving cell-specific parameters . . .*," as Required by Claims 1-20

Independent Claim 1, from which Claims 2-20 depend, requires "receiving, by a wireless device, uplink cancellation configuration parameters *comprising*: a cancellation indication radio network temporary identifier (RNTI); and a sequence of serving cell-specific parameters" (emphasis added.) Petitioner asserts that this limitation is rendered obvious over Ying in view of Yang. Pet. at 18-22. But the entirety of Petitioner's analysis amounts to an assertion that Ying discloses messages in which a device receives "pre-emption indication[s which] may also be referred to as [] cancelation indication[s]," which Petitioner argues are the claimed uplink cancellation configuration parameters (Pet. at 18 (citing APPLE-1004, 30:30-39)), and also receives (i) Ying's "INT-UL-RNTI parameter" as purportedly the claimed "RNTI" (Pet. at 19-20); and (ii) either Ying's "servingCellID" or Yang's "configur[ed] separate blocks in DCI to indicate the UE should apply ULCI to either SUL, NUL, or both" as purportedly a serving cell-specific parameter (Pet. at 20-22).

However, Petitioner fails to address, or advance any support for, the limitation that uplink cancellation configuration parameters *comprise* a cancellation indication radio network temporary identifier (RNTI) and a sequence of serving cell-specific parameters. That is because, even taking the Petition’s arguments as true, at no point does Petitioner assert that Ying’s preemption indication comprises Ying’s INT-UL-RNTI and either Ying’s servingCellID or Yang’s “configur[ed] separate blocks in DCI to indicate the UE should apply ULICI to either SUL, NUL, or both.”

In fact, the cited portion of Ying that Petitioner relies on for Claim 1.a1, discloses that, if a UE 102 is provided a higher layer UplinkPreemption parameter, then the UE may be configured with an RNTI.

If a UE 102 is provided higher layer parameter (e.g., UplinkPreemption), the UE 102 may be configured with an RNTI (e.g., INT-UL-RNTI) . . . for monitoring PDCCH conveying DCI (e.g., DCI format 2_1, and/or DCI format 2_1*) which indicates pre-emption information.

APPLE-1004, 29:47-65. In other words, the higher layer UplinkPreemption parameter that Petitioner relies on for the recited “uplink cancellation parameter” cannot comprise Ying’s RNTI because Ying’s RNTI is only configured when the UE is provided a higher layer parameter, showing that Ying’s UplinkPreemption and RNTI parameters are distinctive from each other.

Having entirely failed to address the claimed requirement that the uplink cancellation configuration parameters must comprise a cancellation indication radio network temporary identifier (RNTI) and a sequence of serving cell-specific parameters, Petitioner cannot show any reasonable likelihood that it would prevail as to any claim. The Petition should therefore be denied.

B. GROUND 1B: Ying Alone Does Not Render Obvious Claims 1-20

As shown above, the Petition fails to show, or advance any support for the proposition that Ying discloses receiving, by a wireless device, uplink cancellation configuration parameters comprising: a cancellation indication radio network temporary identifier (RNTI); and a sequence of serving cell-specific parameters” Petitioner does not argue that Ground 1B remedies this deficiency particularly because it relies only on Ying. *See* Pet. at 44-46. Rather, this Ground only adds arguments for other limitations. Accordingly, Apple has not shown that any claim is rendered obvious under Ground 1B.

C. GROUND 2: Kim in View of Boroujeni Does Not Render Obvious Claims 1-20

- 1. Apple’s Combination Does Not Disclose “*receiving, by a wireless device, uplink cancellation configuration parameters comprising: a cancellation indication radio network temporary identifier (RNTI); and a sequence of serving cell-specific parameters,*” as Required by Claims 1-20**

The Petition presents similar deficiencies in Ground 2 as discussed above in

Grounds 1A and 1B.

The Petition quotes Kim’s discussion that “terminals know to which carrier the bitmap should be applied at a specific location of the DL control channel.” Pet. at 60 (citing APPLE-1007, [0172], [0167]). As a preliminary matter, the Petition fails to specifically identify which of Kim’s disclosure it maps to the claimed “uplink cancellation configuration parameters.” *See* Pet. at 60. The Petition then proceeds to map the claimed “RNTI” to Kim’s disclosure of “the base station may use a higher layer signaling to transmit the identification information for decoding the DCI to one or more terminals.” Pet. at 61. The Petition is silent on whether its non-identified disclosure of uplink cancellation configuration parameters in Kim *comprises* such “identification information.” *Id.* The same is also true with respect to the recited “sequence of serving-cell specific parameters.” *Id.*, at 61-64. The Petition makes no effort to describe whether its various cited disclosed “parameters” in Kim or Boroujeni are included in the claimed “uplink cancellation configuration parameters.” *Id.*

Having failed to show that neither Kim’s nor Boroujeni’s discussion of Petitioner’s identified parameters addresses the claimed requirement that the uplink cancellation configuration parameters must comprise a cancellation indication radio network temporary identifier (RNTI) and a sequence of serving cell-specific

parameters, Petitioner cannot show any reasonable likelihood that it would prevail as to any claim. The Petition should therefore be denied.

V. CONCLUSION

As discussed above, Apple's combination fails to disclose key limitations of each claim of the '695 Patent, and therefore, does not render obvious any claims. The Board should, therefore, deny the Petition.

Respectfully submitted,

Dated: August 18, 2025

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CERTIFICATE OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned PATENT OWNER'S PRELIMINARY RESPONSE specified in 37 C.F.R. § 42.24 has 1,268 words in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24. This word count was prepared using Microsoft Word for Office 365.

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CERTIFICATE OF SERVICE

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