

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC, CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS, T-MOBILE USA, INC., AT&T SERVICES, INC., NOKIA OF AMERICA, CORP.,
AND ERICSSON INC.

Petitioners

v.

KT CORPORATION (Patent Owner) and
PEGASUS WIRELESS INNOVATION LLC (Exclusive Licensee)

Case No. IPR2025-00290

Patent 10,721,118

**PETITIONERS' REPLY TO PATENT OWNER'S
PRELIMINARY RESPONSE**

TABLE OF CONTENTS

	Page
I. ANALYSIS.....	1
A. Futaki Discloses “wherein the addition of the secondary base station SRB is determined by the secondary base station”	1
II. CONCLUSION.....	5
APPENDIX A - LIST OF EXHIBITS	
CERTIFICATE OF SERVICE	

This Reply is responsive to Patent Owner’s Preliminary Response (Paper 13, “POPR”). The Board authorized the filing of this Reply in its email dated June 2, 2025.

I. ANALYSIS

The Petition presents compelling evidence of invalidity. PO asserts that the prior art does not teach “a secondary base station that determines whether to add a secondary signaling radio bearer (SRB) to user equipment (UE).” POPR, 9. PO is wrong. As detailed below, Futaki (EX1007, EX1008), 3GPP 36.300 (EX1009), and 3GPP 36.331 (EX1010) teach a secondary base station (i.e., a 5G specific eNB) “deciding” to add the secondary base station SRB by transmitting a first request to notify the master base station (i.e., an LTE+ eNB) regarding the new 5G cell and teach a secondary base station “configuring” the secondary base station SRB, thus “determining” whether to add a secondary SRB to a UE.

A. Futaki Discloses “wherein the addition of the secondary base station SRB is determined by the secondary base station”

As explained in the Petition, Futaki discloses “wherein the addition of the secondary base station SRB is *determined* by the secondary base station.” Futaki expressly discloses a secondary base station “configur[ing] a signalling radio bearer with the 5G UE 1” EX1007, ¶[0030]; EX1008, ¶[0030]; Pet., 35. The Petition explains what is encompassed by “determined by the secondary base station” in view of the ’118 Patent specification and prosecution history. Pet., 36-38. PO argues that

“paragraph [0030] of Futaki includes no detail concerning what entity ‘determines’ to add a secondary base station SRB”, and in addition argues that Futaki makes “no mention of ‘determining’ or ‘initiating’ or similar actions in paragraph [0030] of Futaki.” POPR, 10-11 (emphasis added). PO is wrong.

Addressing PO’s first point, Futaki clearly discloses that a secondary base station (*i.e.*, referenced in Futaki as a “5G specific eNB”) has a “New RRC layer” which “determines” to add the secondary base station SRB because the “New RRC layer” configures and/or sets up a secondary base station SRB using the New RRC layer of the secondary base station. “[A] 5G specific eNB 6 used in a non-co-located deployment may have a New RRC layer 511”. EX1007, ¶[0030]; EX1008, ¶[0030]; Pet., 35. Futaki states that “the New RRC layer 511 may *configure* the lower layers 406-408 of the New 5G CG” and “[t]he New RRC layer 511 may *set up a signaling radio bearer* with the 5G UE 1”. EX1007, ¶[0030]; EX1008, ¶[0030] (emphasis added). Futaki clearly discloses that *the New RRC layer provided by the 5G specific eNB* (*i.e.*, the secondary base station) “determines” the addition of the secondary base station SRB at least because Futaki states that the New RRC layer of the secondary base station configures and/or sets up the signaling radio bearer with the UE. *See* Pet, 35-38. EX1013, ¶¶124-130.

PO’s second argument that Futaki makes “no mention of ‘determining’ or ‘initiating’ or similar actions” is wrong because Futaki does disclose actions that

involve “determining” or “initiating.” The Petition provides a detailed explanation of what “determining” encompasses. *See* Pet., 36-38. Indeed, a review of the ’118 specification and prosecution history reveals that the claimed “determining” encompasses actions similar, and in fact identical, to those disclosed by Futaki.

For example, the Petition explains that “determining” encompasses similar actions including “deciding” (as used by Applicant in the prosecution history, *see* EX1002, p.70 and in the ’118 Patent specification, *see* EX1001, 6:63-64) and “configuring” (used in the ’118 Patent specification, *see* EX1001, 14:58-62; 14:54-15:3). The ’118 Patent is clear that “configuring” is encompassed by “determining” because “configuring” ***“denotes that the NR BS determines to add an SRB (e.g., SRB1) between the UE and the NR BS to a corresponding UE, and generates configuration information for this.”*** EX1001, 14:58-62; 14:54-15:3; Pet., 37 (emphasis added). Thus, Futaki’s express disclosure satisfies “determining” in view of the ’118 Specification. EX1007, ¶[0030]; EX1008, ¶[0030]; *See* Pet., 35-38.

PO misapprehends Petitioners’ reliance on the ’118 specification for its disclosure with regard to actions similar to “determining.” Petitioners cite the ’118 disclosure to highlight “similar actions” for “determining” in the ’118 Patent. Specifically, the Petition states that “[t]he ’118 Patent also discloses that the master base station ‘decides to request the SeNB 120 to allocate radio resources for a specific E-RAB.’” Pet., 36 (citing EX1001, 6:63-64; 6:60-66). Petitioners cite this

disclosure to show that the claimed “determining” is similar to “deciding”—not that “determining” is performed by the master base station. Pet., 36.

In an attempt to refute Petitioners’ arguments regarding Fig. 8 of Futaki (*see* Pet., 36-38), PO asserts that “the master base station initiates, or in the language of the claims, ‘determines’ to add a secondary base station SRB to a UE.” POPR, 15 (citing EX1007, ¶[0080]). However, PO’s selection of “initiating” arises from a section in Futaki which PO mischaracterizes in its POPR. *Id.*

As quoted by PO, Futaki discloses “[i]n step 802, ‘[i]n response to receiving the X2 message, the LTE+ eNB 5 may *initiate* a SeNB Modification procedure.” POPR, 15 (citing EX1007, ¶[0080] (emphasis in POPR)). This sentence demonstrates that the master base station only acts “in response to” a message (*i.e.*, the X2 message) from the secondary base station. PO fails to address that the phrase “initiating” occurs “*in response to* receiving the X2 message” where the X2 message denotes *the secondary base station “determining” to add the secondary base station SRB*. *See* Pet., 36-38. According to Futaki, the master base station does not “decide to request the SeNB to add or modify radio resources” (EX1002, p.70), but only performs initiation “in response to receiving the X2 message” from the secondary base station. EX1007, ¶[0080]; EX1008, ¶[0080]. Figure 8 of Futaki also shows step 805 in which the secondary base station “configures” the secondary base station SRB with the UE. Pet., 37-38. *See*, EX1007, Fig. 8; EX1008, Fig. 8. PO even

admits that steps 801A and 801B “are inter-base station messages *to notify the master base station regarding the new 5G cell.*” POPR, 15 (emphasis added). Prior to notifying (or with notification to) the master base station, the secondary SRB “decides” and/or “determines” to add the secondary base station SRB, without any request or instruction from the master base station. *Id. See* Pet., 36. The entity performing the “notifying” of the addition of the secondary base station SRB in Futaki (i.e., the secondary base station) is the entity that “decides”, “determines”, and/or “configures” to add the secondary base station SRB. PO’s argument fails because it mischaracterizes and/or ignores express teachings of Futaki. Futaki discloses both addition and modification of secondary base station SRBs, which were well known in the art. *See* Pet., 25-30. *See also* EX1007, ¶[0063]; EX1008, ¶[0063].

The cited art discloses “wherein the addition of the secondary base station SRB is determined by the secondary base station.”

Pursuant to the Director’s Memorandum dated March 26, 2025, Petitioners explained why discretionary denial is inappropriate in their Opposition to Patent Owner’s Request for Discretionary Denial filed June 5, 2025.

II. CONCLUSION

Petitioners have demonstrated a reasonable likelihood of success on the merits. Therefore, the Board should institute trial.

Date: June 16, 2025

Respectfully submitted,

/Patrick C. Keane/

Patrick C. Keane, Esq.

Registration No. 32,858

BUCHANAN INGERSOLL & ROONEY PC

1737 King Street, Suite 500

Alexandria, Virginia 22314

Direct Telephone (703) 838-6522

Main Facsimile (703) 836-2021

patrick.keane@bipc.com

Counsel for Petitioner

APPENDIX A - LIST OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 10,721,118, issued on July 21, 2020 (“the ’118 Patent”)
1002	File History of U.S. Patent Application No. 16/300,557, filed on November 10, 2018 (“the ’557 Application”)
1007	Certified English Translation of PCT International Publication No. WO 2017/119247 to Futaki <i>et al.</i> , published on July 13, 2017 (“Futaki”)
1008	Certified English Translation of JP 2016-002879
1009	3GPP TS 36.300 v12.8.0 (2015-12) 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Overall description; Stage 2 (Release 12) (“3GPP 36.300”)
1010	3GPP TS 36.331 v12.8.0 (2015-12) 3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC) Protocol specification (Release 12) (“3GPP 36.331”)
1013	Declaration of Sumit Roy

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 16th day of June, 2025, a true and correct copy of the foregoing **PETITIONERS' REPLY TO PATENT OWNER'S PRELIMINARY RESPONSE** is being served via electronic mail upon counsel for Patent Owner as follows:

Wayne Helge
James Wilson
BUNSOW DE MORY LLP
whelge@bdiplaw.com
jwilson@bdiplaw.com
erobinson@bdiplaw.com

Date: June 16, 2025

/Patrick C. Keane/
Patrick C. Keane, Esq.
Registration No. 32,858
BUCHANAN INGERSOLL & ROONEY PC
1737 King Street, Suite 500
Alexandria, Virginia 22314
Direct Telephone (703) 838-6522
Main Facsimile (703) 836-2021
patrick.keane@bipc.com
Counsel for Petitioner