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PATENT ASSIGNMENT COVER SHEET

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NATURE OF CONVEYANCE:	ASSIGNMENT

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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14592462

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DATE SIGNED:	02/11/2015

Total Attachments: 7

PATENT REEL: 034935 FRAME: 0592

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ASSIGNMENT

I/we, (The ASSIGNOR(S)):

Taejoon Kim Sayantan Choudhury Klaus F. Doppler Chittabrata Ghosh Zhong-Yi Jin Esa Tuomaala

For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, hereby assign to (hereafter referred to as The ASSIGNEE):

Nokia Technologies OY Karaportti 3 02610 Espoo Finland.

X

An invention entitled (invention Title):

METHOD AND APPARATUS FOR SIGNALING SEQUENCE ROOT

the full and exclusive right to the invention;

Ine PAIEN	NT RIGHTS referred to in this agreemen	t are:		
_	a national Patent Application No.	filed on		
	European Patent Application No.	filed on		
_	PCT application No.	filed on		
for this inve	ention, executed by the ASSIGNOR(S)			
<u>X</u>	U.S. Patent Application Serial No. 14/592462, filed January 08, 2015			
-	U.S. Patent No.	, issued		
The PATEN	NT RIGHTS assigned under this agreen	ent are:		
	U.S. Patent rights			
<u>X</u> X	worldwide Patent rights. In this case	the assignee shall have the r	ight to claim the	
=	benefit of the filing date of any Pater			
	perionical are many date of any Fate	r whospion regulated above.		

The ASSIGNOR(S) do hereby assign the following to each ASSIGNEE; their successors and assigns:

an equal interest in and to the entire right, title and interest in and to the PATENT RIGHTS in the invention, all continuations, continuations-in-part, divisionals, re-issues, and re-examination patents and patent applications; and

the right to claim priority under 35 U.S.C. § 119, based on any earlier foreign applications for this invention.

As to all U.S. Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and request(s) the Commissioner of Patents and Trademarks to issue all Letters Patent to the ASSIGNEE(S) as the ASSIGNEE(S) of an equal interest in the entire right, title and interest, for the sole use and enjoyment of said ASSIGNEE(S), their successors and assigns.

Further, the ASSIGNOR(S) agree(s) to communicate to said ASSIGNEE(S), or their representatives, any facts known to the ASSIGNOR(S) respecting said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitute, renewal, reexamination and reissue applications, execute all necessary assignment papers to cause any and all Letters Patent to be issued to said ASSIGNEE(S), make all rightful oaths and generally do everything necessary or desirable to aid said ASSIGNEE(S), their successors and assigns, to obtain and enforced proper protection for said invention.

Further, I/We authorize the attorney of record to update this document to include Patent Office information as deemed necessary (i.e., filing date, serial number, etc.);

Each Inventor: Please sign and date below: PATENT

REEL: 034935 FRAME: 0594

NC78825 [Taejoon Kim]

Witness Signature
Printed Name

NC78825

Witness Signature
Printed Name __ENRICO HENRIC RANIACA

NC78825

DANNUGZS

1 16 | 2015 Date

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Witness Signature
Printed Name

ENRICOHENRIK RANDA

Date

Witness Signature
Printed Name Honggu Jiang

Date $\frac{1/20/2015}{20/2015}$

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Show	01/30/15
[Chittabrata Ghosh]	Date
Witness Signature	Date

PATENT REEL: 034935 FRAME: 0600

RECORDED: 02/11/2015