PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
KARI HOOLI	03/18/2009
KARI PAJUKOSKI	03/18/2009
ESA TIIROLA	03/18/2009

RECEIVING PARTY DATA

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PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	14857723

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DATE SIGNED:	09/21/2015	

Total Attachments: 1

source=1 Assignment from Inventors to Nokia Siemens Networks Oy#page1.tif

PATENT 503488950 REEL: 036644 FRAME: 0191

Docket No. 089229.00223

WORLDWIDE INVENTION ASSIGNMENT

For good and valuable consideration paid to the undersigned inventor(s) (hereinafter ASSIGNOR) NOKIA SIEMENS NETWORKS OY ASSIGNATES KARAPORTTI 3 Succession ESPOO 02610 Addresdown FINLAND theremafter ASSIGNEE), the receipt and sufficiency of which is hereby acknowledged, the undersigned ASSIGNOR hereby sells, assigns and transfers to ASSIGNEE the entire and exclusive right, title and interest to the invention entitled datent FREQUENCY HOPPING PATTERN AND ARRANGEMENT FOR SOUNDING REFERENCE Inventors SIGNAL for which the following applications were filed: *Hithe assignment a being filed. after the films of the *Filed on: Application application, this March 20, 2009 Number(s) 12/382,662 soctoon mass becompleted (Squire, Sanders & Dempsey L.L.P. is hereby authorized to insert the series code, serial number and/or filing date hereon, when known) and all Letters Patent of any country in the world to be obtained therefor on said application or any continuation, division, renewal, substitute, reissue or reexamination thereof for the full term or terms for which the same may be granted. The ASSIGNOR agrees to execute all papers necessary in connection with application and any continuing, divisional, reissue or reexamination applications thereof and also to execute separate assignments in connection with such applications as the ASSIGNEE may deem necessary or expedient, the ASSIGNOR agrees to execute all papers necessary in connection with any interference, litigation, or other legal proceeding which may be declared concerning this application or any continuation, division, reissue or reexamination thereof or Letters Patent or reissue patent issued thereon and to cooperate with the ASSIGNEE in every way possible in obtaining and producing evidence and proceeding with such interference, litigation, or other legal proceeding. IN WITNESS WHEREOF, the undersigned inventor(s) has (have) affixed his/her/their signature(s). Sugnaturers) Kari HOOLI et Assgrads d (SIGNATURE) (TYPE NAME) M. P. Deeg Kari PAJUKOSKI (SIGNATURE) (TYPE NAME) (DATE) Esa THROLA (SIGNATURE) (TYPE NAME)

> PATENT REEL: 036644 FRAME: 0192

RECORDED: 09/21/2015