

## PATENT ASSIGNMENT COVER SHEET

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<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DONG-SHENG YU	12/04/2010
HOSEIN NIKOPOURDEILAMI	12/04/2010
MO-HAN FONG	12/04/2010
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<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16182525
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(877)769-7945
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<b>Correspondent Name:</b>	FISH & RICHARDSON P.C.
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<b>DATE SIGNED:</b>	02/04/2020
<b>Total Attachments: 4</b>	
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PATENT APPLICATION  
ASSIGNMENT

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FOR VALUABLE CONSIDERATION, the receipt of which is hereby acknowledged, we the undersigned, whose full post office addresses are listed below our names, do hereby sell, assign and transfer to:

**NORTEL NETWORKS LIMITED**

(hereinafter "Nortel"), its successors, assigns and legal representatives, whose full post office address is:

5945 Airport Road, Suite 360  
Mississauga, Ontario  
Canada, L4V 1R9

all their right, title, and interest worldwide in and to the invention relating to

**UPLINK CONTROL SIGNAL DESIGN FOR WIRELESS SYSTEM**

as described in an application filed in the United States on September 2, 2009 and given serial number 61/239,204 and which was converted under 37 C.F.R. § 1.53 (c) (3) to United States serial number 12/806,193 , which claims priority from an application filed in the United States on September 5, 2008 and given serial number 61/094,644, as well as all rights and privileges including priority rights arising from the aforesaid application and corresponding applications in other countries, all continuations, continuations-in-part, divisionals, renewals, substitutes or reissues thereof, and all the rights and privileges under any and all letters patent that may be granted for said invention.

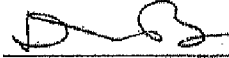
We undertake without charges to Nortel but at its request and expense to execute all documents, take all oaths and do all reasonable acts to enable Nortel, its successors assigns and legal representatives to procure and maintain patent or any other intellectual property protection for said invention in any and all countries and to vest title thereto to Nortel, its successors assigns and legal representatives.

THE UNDERSIGNED hereby authorizes the firm of Smart & Biggar whose full office address is P.O. Box 2999, Station D, 900-55 Metcalfe Street, Ottawa, Ontario, K1P 5Y6, Canada, to correct clerical errors in this Assignment or to insert any further identification or other information necessary or desirable to make this Assignment suitable for recordal in a domestic or foreign Patent Office.

PATENT  
REEL: 026070 FRAME: 0505

PATENT  
REEL: 051717 FRAME: 0151

  
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RECORDED: 04/04/2011

PATENT  
REEL: 026070 FRAME: 0508

RECORDED: 02/04/2020

PATENT  
REEL: 051717 FRAME: 0154