504993211 07/08/2018

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JULIUS KUSUMA	11/10/2016
ARNAUD JARROT	11/10/2016
ADEEL MUKHTAR	06/18/2018
LIANG SUN	11/09/2016
ROBERT TENNENT	11/08/2016
DAVID KIRK CONN	07/03/2018
LUIS EDUARDO DEPAVIA	06/21/2018

RECEIVING PARTY DATA

Name:	SCHLUMBERGER TECHNOLOGY CORPORATION
Street Address:	300 SCHLUMBERGER DRIVE
City:	SUGAR LAND
State/Country:	TEXAS
Postal Code:	77478

PROPERTY NUMBERS Total: 2

Property Type	Number
Application Number:	62356990
Application Number:	15623424

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Email: kdumas-scarber@slb.com

Correspondent Name: KRISTINE DUMAS-SCARBER

Address Line 1: 10001 RICHMOND AVENUE

Address Line 2: ROOM 4720

Address Line 4: HOUSTON, TEXAS 77042

ATTORNEY DOCKET NUMBER:	IS16.0735-US-PSP
NAME OF SUBMITTER:	KRISTINE DUMAS-SCARBER
SIGNATURE:	/KRISTINE DUMAS-SCARBER/

PATENT 504993211 REEL: 046287 FRAME: 0902

Total Attachments: 10
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Assignment

WHEREAS, the undersigned inventors hereinafter referred to as the "Inventors," each said Inventor being listed below:

Julius Kusuma, a citizen of the United States of America;

Arnaud Jarrot, a citizen of France:

Adeel Mukhtar, a citizen of Pakistan;

Liang Sun, a citizen of the United States of America;

Robert Tennent, a citizen of South Africa;

David Kirk Conn, a citizen of the United States of America; and

Luis Eduardo DePavia, a citizen of the United States of America; and

Has/have invented certain new and useful improvements in

METHODS AND SYSTEMS FOR SPECTRUM ESTIMATION FOR MEASURE WHILE DRILLING TELEMETRY IN A WELL SYSTEM

as described and set forth in a United States Provisional Patent Application filed on June 30, 2016 under Serial Number 62/356,990, (Docket No. IS16.0735-US-PSP). This assignment is effective as of June 30, 2016.

AND WHEREAS, the "COMPANIES", listed in Schedule A, are desirous of acquiring or confirming their acquisition of the entire right, title and interest in and to said invention, inventions or improvements, and in and to said application, and in and to any and all patents, both of the United States and of all foreign countries, that may be obtained therefore as outlined in Schedule A;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, BE IT KNOWN, that the undersigned Inventors, for good and valuable considerations, the receipt and sufficiency of which hereby acknowledge, have sold, assigned, transferred and conveyed, and by this assignment do sell, assign, transfer and convey, unto said COMPANIES, their successors and assigns, the entire right, title and interest throughout the world, in and to the above-described invention, inventions or improvements described or set forth in said application, in any form or embodiment thereof, and in and to said application, and in and to any applications filed in any foreign country based thereon, including the right to file foreign applications under the provisions of any convention or treaty; and in and to any confirmation, divisional, continuation, continuation-in-part, or substitute application which may be filed on said invention, inventions or improvements in the United States or in any foreign country; and in and to any and all patents, certificates, utility models, reissues, extensions, additions or confirmations thereof which may be

granted in the United States or in any foreign country upon said invention, inventions or improvements,

TO HAVE AND TO HOLD the same to the full end of the term or terms for which any and all such United States and foreign patents and grants may be issued on said invention, inventions or improvements.

AND said Inventors do hereby authorize and request the issuing authority to issue any and all of said United States and foreign patents on said application or applications to said COMPANIES, their successors and assigns, as the assignee of the entire right, title and interest in and to the same, for the sole use and benefit of said COMPANIES, their successors and assigns.

AND said Inventors do hereby covenant and warrant that said Inventors have full right to convey the entire right, title and interest herein assigned free and clear of all licenses, encumbrances and liens whatsoever, and that no said Inventors has executed and will execute any instruments in conflict herewith.

AND said Inventors, for the conditions aforesaid, do hereby covenant and agree to and with the said COMPANIES, their successors and assigns, that each Inventor, his or her executors, administrators, or other personal representatives, shall and will do all lawful acts and things, make all rightful oaths, and make, execute and deliver any and all other instruments in writing, and any and all further applications, papers, powers, affidavits, assignments, disclaimers and other documents, which in the opinion of counsel for said COMPANIES, their successors and assigns, may be required or necessary in this or in any foreign country more effectually to secure to and vest in said COMPANIES, their successors and assigns, the entire right, title and interest in and to said invention, inventions or improvements, application or applications, patents, rights, titles, benefits, privileges, and advantages hereby sold, assigned, confirmed, transferred and conveyed.

This Agreement is entered in contemplation of and shall be construed in accordance with the laws of the State of Texas, and may not be amended or modified unless in a subsequent writing executed by the COMPANIES.

IN WITNESS WHEREOF I, Julius Kusuma, have day of Neverthere , 2016.	hereunto set my hand and seal this
	Julius Kusuma
COMMONWEALTH OF MASSACHUSETTS	
COUNTY OF MIDDLESEX	
BEFORE ME this _//jt day of _/ductor x, 201 to me known to be the person who is described in and instrument and acknowledged to me that he/she execute the purpose therein expressed.	who executed the foregoing assignment
Seal	Emily & autori Notary Public
	Notary Public
	EMILY E. AUTORI Notary Public COMMONWEALTH OF MASSACHUSETTS My Commission Expires May 1, 2020

$\mathbb{I}\mathbb{N}$		WHEREOF		3			hereunto	set my	hand	and	seal	this
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							Arnau	d Jarrot				

COMMONWEALTH OF MASSACHUSETTS

COUNTY OF MIDDLESEX

BEFORE ME this _______ day of ________, 2016, personally appeared Arnaud Jarrot, to me known to be the person who is described in and who executed the foregoing assignment instrument and acknowledged to me that he/she executed the same of his/her own free will for the purpose therein expressed.

Seal

Enrily E. Gulori Notary Public

EMILY E. AUTORI
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
May 1, 2020

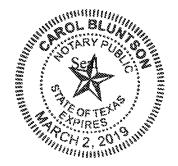
day of, 201	
	· APH
	Adeel Mukhtar
BE IT KNOWN, that Adeel Mukhtar is know	n to us to be the individual described in this
assignment, that on the aforementioned date, we	were personally present and did see him/her
sign and execute this assignment and that he/she	acknowledged to us that he/she executed the
same as his/her free act and deed for the uses and	purposes therein set forth.
and day or	Rad & 1.0
Witness	Witness
8602 Timbercaft Dr	12511 William Dowless
11 1 TV DD 186	idail mullided havillen Di
Houston, 1x / 10715	Cyrress, TX 77429
	•
Post Office Address	Post Office Address

IN WITNESS WHEREOF I	, Liang Sun,	have hereur	to set my	hand an	d seal this	9 th
day of November	, 2016.					
			54.5	AND THE PARTY OF T	are a second	NEW STREET, ST
			Lian	g Sun	Service Control of the Control of th	

STATE OF TEXAS

COUNTY OF HARRIS

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Notary Public

Rev. 5-26-16

	WHEREOF	I,	Robert	Tennent,	have	hereunto	set	my	hand	and	seal	this
 ಆ ^{⊤"} da	y of Nove	p.s	BER	, 2016.	,							
 	* *************************************					ast involve			2			
						M	222	n.Su	<i>[</i>			
						Dobort	man	22 0.22	}			

STATE OF TEXAS

COUNTY OF HARRIS

BEFORE ME this gapeared Robert Tennent, to me known to be the person who is described in and who executed the foregoing assignment instrument and acknowledged to me that he/she executed the same of his/her own free will for the purpose therein expressed.



Notary Public

IN WITNESS WHEREOF I, David Kirk Conn, have day of, 2018.	hereunto set my hand and seal this
	David Kirk Conn
STATE OF TEXAS	
COUNTY OF HARRIS	
BEFORE ME this 3 day of 12, 201 Conn, to me known to be the person who is described assignment instrument and acknowledged to me that he/s free will for the purpose therein expressed.	in and who executed the foregoing
CAROL BLUNTSON NOTARY PUBLIC	Carly Public Notary Public

Edordo (D
IN WITHECC WHEDEAU I I win Edwards Departs have become set my hard and goal this
day of Jone, 2016.
Luis Edwardo DePavia
Édocado LD
STATE OF TEXAS
COUNTY OF HARRIS
BEFORE ME this

CAROL BLUNTSON
SHOTARY PUBLIC
STATE OF TEXAS
MY COMM. EXP. 3/2/19
NOTARY ID 581756-5

Notary Public

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REEL: 046287 FRAME: 0912

Schedule A "COMPANIES"

SCHLUMBERGER TECHNOLOGY CORPORATION

Corporation of: United States of America Located at: 300 Schlumberger Drive, Sugar Land, Texas 77478 U.S.A. Assignee for applications in: United States of America

SCHLUMBERGER CANADA LIMITED

Corporation of: Canada Located at: 125 - 9 Avenue SE, Calgary, Alberta T2G 0P6 Assignee for applications in: Canada

SERVICES PETROLIERS SCHLUMBERGER

Corporation of: France Located at: 42 rue Saint Dominique, 75007 Paris, France Assignee for applications in: France

SCHLUMBERGER TECHNOLOGY B.V.

Corporation of: The Netherlands

Located at: Parkstraat 83-89, 2514 TJG, The Hague, The Netherlands Assignee for applications in: GCC and all other countries not otherwise listed.

Rev. 5-26-16 10 **PATENT** REEL: 046287 FRAME: 0913 **RECORDED: 07/08/2018**