505923580 02/19/2020

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5970298

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Jeffrey Freedman	01/23/2020
Michael Mandell	01/28/2020
Phil Rubin	02/11/2020
Ted Kaplan	01/23/2020
David Milliner	01/23/2020
David Marshack	01/23/2020
Erik Halvorson	02/12/2020

RECEIVING PARTY DATA

Name:	RKF ENGINEERING SOLUTIONS LLC
Street Address:	7500 OLD GEORGETOWN ROAD
Internal Address:	SUITE 1275
City:	BETHESDA
State/Country:	MARYLAND
Postal Code:	20814-6198

PROPERTY NUMBERS Total: 7

Property Type	Number
Application Number:	15720828
PCT Number:	US2017054292
Application Number:	62402028
Application Number:	62451043
Application Number:	62500589
Application Number:	62535282
Application Number:	62536135

CORRESPONDENCE DATA

Fax Number: (877)769-7945

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.

+1 (202) 626-6428 Phone:

apsi@fr.com Email:

PATENT REEL: 051857 FRAME: 0386 505923580

Correspondent Name: AYAN ROY-CHOWDHURY Address Line 1: FISH & RICHARDSON P.C.

Address Line 2: P.O.BOX 1022

Address Line 4: MINNEAPOLIS, MINNESOTA 55440-1022

ATTORNEY DOCKET NUMBER:	35876-0027001
NAME OF SUBMITTER:	ARLENE F. YATES
SIGNATURE:	/Arlene F. Yates/
DATE SIGNED:	02/19/2020

Total Attachments: 9

source=35876-0027001 Revised Assignment_2020_02_12a#page1.tif source=35876-0027001 Revised Assignment_2020_02_12a#page2.tif source=35876-0027001 Revised Assignment_2020_02_12a#page3.tif source=35876-0027001 Revised Assignment_2020_02_12a#page4.tif source=35876-0027001 Revised Assignment_2020_02_12a#page5.tif source=35876-0027001 Revised Assignment_2020_02_12a#page6.tif source=35876-0027001 Revised Assignment_2020_02_12a#page7.tif source=35876-0027001 Revised Assignment_2020_02_12a#page8.tif source=35876-0027001 Revised Assignment_2020_02_12a#page8.tif source=35876-0027001 Revised Assignment_2020_02_12a#page9.tif

PATENT REEL: 051857 FRAME: 0387 Attorney Docket Nos.: 35876-0027001; 35876-0027WO1; 35876-0027P01; 35876-0028P01; 35876-0029P01; 35876-0030P01; 35876-0030P02

ASSIGNMENT

For valuable consideration, the receipt of which we acknowledge, and intending to be bound legally, we, JEFFREY FREEDMAN, MICHAEL MANDELL, PHIL RUBIN, TED KAPLAN, DAVID MILLINER, DAVID MARSHACK, and ERIK HALVORSON, each individually assigns to RKF ENGINEERING SOLUTIONS LLC, a limited liability company formed under the laws of Delaware and having a principal place of business at 7500 Old Georgetown Road, Suite 1275, Bethesda, MD 20814-6198, and its successors, transferees, and assignees (collectively the "Assignee"), all of our individual and joint right, title, and interest throughout the world in the invention(s) (the "Subject Matter") described in:

a patent application that names us as inventors, is titled "HYBRID ANALOG/DIGITAL BEAMFORMING," and was filed in the United States Patent and Trademark Office on September 29, 2017, as application 15/720,828;

a PCT application that is titled "HYBRID ANALOG/DIGITAL BEAMFORMING," and was filed in the United States Patent and Trademark Office on September 29, 2017, as application PCT/US2017/054292;

a provisional patent application that is titled "HYBRID ANALOG/DIGITAL BEAMFORMER," and was filed in the United States Patent and Trademark Office on September 30, 2016, as application 62/402,028;

a provisional patent application that is titled "HYBRID ANALOG/DIGITAL BEAMFORMER," and was filed in the United States Patent and Trademark Office on <u>January</u> 26, 2017, as application 62/451.043;

a provisional patent application that is titled "HYBRID ANALOG/DIGITAL

BEAMFORMER WITH DEPLOYABLE REFLECTORS," and was filed in the United States

Patent and Trademark Office on May 3, 2017, as application 62/500.589;

a provisional patent application that is titled "HYBRID ANALOG DIGITAL FLEXIBLE COVERAGE SATELLITE SYSTEM," and was filed in the United States Patent and Trademark Office on July 21, 2017, as application 62/535,282; and

a provisional patent application that is titled "HYBRID DIGITAL/ANALOG BEAMFORMING," and was filed in the United States Patent and Trademark Office on July 24, 2017, as application 62/536.135 (collectively the "Applications").

PATENT REEL: 051857 FRAME: 0388

This Assignment assigns, in addition to the Subject Matter of the Applications, (a) the Applications and all other applications that may be made for, and all patents, utility models, design registrations, and other rights of exclusion and inventors' certificates for, any of the Subject Matter (collectively the "Applications and Granted Rights") in every country or region and under every treaty or convention, (b) the right to claim priority based on and the benefit of the filing date of any of the Applications and Granted Rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other applicable treaties or conventions, and (c) the right to pursue, collect, and retain in the Assignee's name or otherwise, damages and any other remedies arising from any past, present, or future infringement of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment.

We authorize the Assignee to apply for and pursue protection for any or all of the Subject Matter, the Applications and Granted Rights, and any other rights assigned by this Assignment in all countries, regions, and territories of the world, in our names or in the Assignee's name.

We represent and warrant that we have the right and power to make this Assignment and that we have not made and will not make any other assignment that conflicts with this Assignment.

We will communicate to the Assignee (or, at the request of the Assignee to other parties) all known facts in any form relating to the Subject Matter; will execute and provide all oaths and declarations, statements, testimony, assignments, powers of attorney, applications, and documents; and will perform all other lawful acts necessary or desirable to secure fully to the Assignee the rights, titles, and interests assigned by this Assignment.

| Date: 1/23/2020 |
| Witnessed by: | Date: 1/23/2020 |
| Print Name: 1/24/2020 |
| Signature: | Date: 1/23/2020 |
| Date: 1/2

Print Name: David MILLINER

Milad Mondell	Date: JAN 28, 2020
Michael Mandell	
Witnessed by:	
Signature:	Date: _1/28/2020
Print Name: David Milliner	
Signature:	Date:
Print Name: David Marshack	

Philip A Rutin	11 February 2020 Date:
Phil Rubin	
Witnessed by:	
Signature:	Date: 11 February 2020
Print Name: David Marshack	
Signature: John how	Date: 11 February 2020
Print Name: Jeffrey Freedman	

Ted Kaplan

Date: 1/23/2020

Witnessed by:

Signature:

Date: <u>[//33/2020</u>

Print Name: January 1000

Signature:

Date: <u>//23/2020</u>

Print Name: ___

Assignment Page 6 of 9

David Milliner

Date: 1/22/2040

Witnessed by:

Signature: ___

Print Name: _

Signature:

Print Name

Date: <u>1/23/2020</u>

Date: <u>//23/202</u>.)

David Marshack

Witnessed by:

Signature:

Print Name:

Signature:

Print Name:

Date: 1/23/2020

Date: <u>//23/2020</u>

Date: <u>//み>/2aみみ</u>

. / 1 /	**************************************
911117	Date: <u>2/12/20</u>
Erik Halvorson	Date 10-10-10
Witnessed by:	, ,
Signature: ////	Date: 2/12/20
Print Name: Telkaplan	
Signature:	Date: <u>2/2/2/</u>
Print Name: Jeffey Fooding	
The Assignee hereby acknowledges and acc	epts the foregoing assignment.
Assignce: RKF ENGINEERING SOLUTIO	NS LLC
	1 1
Signature: 470	Date: <u>1/23/202</u> 2
Name: 1ed Kaplan	/_/
Title:	

Assignment Page 9 of 9

PATENT REEL: 051857 FRAME: 0396

414300H6 doc