## 503801798 04/27/2016

## PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
SHEREEF SHEHATA	04/26/2016
SANDEEP KUMAR GOEL	04/25/2016
TZE-CHIANG HUANG	04/22/2016
YUN-HAN LEE	04/12/2016
MEI WONG	04/26/2016

### **RECEIVING PARTY DATA**

Name:	TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD.
Street Address:	NO. 8, LI-HSIN RD. VI, HSINCHU SCIENCE PARK
City:	HSINCHU
State/Country:	TAIWAN
Postal Code:	300

## **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15099941

### **CORRESPONDENCE DATA**

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NAME OF SUBMITTER:	RANDY A. NORANBROCK
SIGNATURE:	/Randy A. Noranbrock/
DATE SIGNED:	04/27/2016

**Total Attachments: 2** 

PATENT REEL: 038394 FRAME: 0451

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> PATENT REEL: 038394 FRAME: 0452

## ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

1) Shereef SHEHATA

4) Yun-Han LEE

2) Sandeep Kumar GOEL

5) Mei WONG

3) Tze-Chiang HUANG

who has made a certain new and useful invention, hereby sells, assigns and transfers unto TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD., having a place of business at No. 8, Li-Hsin Rd. VI, Hsinchu Science Park, Hsinchu 300, Taiwan R.O.C.

its successors and assigns (hereinafter designated "ASSIGNEE") the entire right, title and interest for the United States of America as defined in 35 U.S.C. 100 in the invention entitled

# POWER CONSUMPTION ESTIMATION METHOD FOR SYSTEM ON CHIP (SOC), SYSTEM

FOR IMPLEMENTING THE METHOD				
(a)	for which an application for United States Letters Patent was filed on _	2016-04-15	, and identified by	
	15/000 041	; or	-	
(b)	for which an application for United States Letters Patent was executed	on,		

and the undersigned hereby authorizes and requests the United States Commissioner of Patents and Trademarks to issue any and all United States Letters Patent which may be granted therefore and any and all extensions, divisions, reissues, continuations, or continuations-in-part thereof, and the right to all benefits under the International Convention for the Protection of Industrial Property to the said ASSIGNEE, for its interest as ASSIGNEE, its successors, assigns and legal representatives; the undersigned agrees that the attorneys of record in said application shall hereafter act on behalf of said ASSIGNEE;

AND the undersigned hereby agrees to transfer a like interest, and to render all necessary assistance in making application for and obtaining original, divisional, reissued or extended Letters Patent of the United States, upon request of the said ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements, and applications for patent based thereon, growing out of or related to the said invention; and to execute any papers by the said ASSIGNEE, its successors, assigns and legal representatives, deemed essential to ASSIGNEE's full protection and title in and to the invention hereby transferred.

SIGNED on the date indicated aside my signature:

1) New York New York New York Name: Shereef SHEHATA Date:

2) O4/25/2016

Name: Sandeep Kumar GOEL

3) Name: Tze-Chiang HUANG

Date:

4) Date:

5) Manue: Yun-Han LEE

Date:

4/26/2016

Date:

PATENT REEL: 038394 FRAME: 0453

Docket No. P20160018US00 TS057-1194

## ASSIGNMENT

In consideration of the premises and other good and valuable consideration in hand paid, the receipt and sufficiency of which is hereby acknowledged, the undersigned,

Shercef SHEHATA
 Sandeep Kumar GOEL
 Tze-Chiang HUANG
 Tze-Chiang HUANG

FOR IMPLEMENTING THE METHOD

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# POWER CONSUMPTION ESTIMATION METHOD FOR SYSTEM ON CHIP (SOC), SYSTEM

(a)	for which an application for United States Let United States Patent Application No. $\frac{1}{2}$	ters Patent was filed on	2016-04-15	and identified by
(b)	for which an application for United States Let	ters Patent was executed	D8	
all Ur contin Prope	ne undersigned hereby authorizes and requests the nited States Letters Patent which may be granted usations-in-part thereof, and the right to all be rry to the said ASSIGNEE, for its interest as AS is that the attorneys of record in said application is	therefore and any and al nefits under the Internati SIGNEE, its successors,	I extensions, divisions, reis onal Convention for the P assigns and legal represents	sues, continuations, or rotection of Industrial
ASSE applic ASSE the in	AND the undersigned hereby agrees to treation for and obtaining original, divisional, release GNEE, its successors, assigns and legal representations for patent based thereon, growing out of GNEE, its successors, assigns and legal representation hereby transferred.  ED on the date indicated aside my signature:	ned or extended Letters Pa tatives, and without furth of or related to the said i	itent of the United States, up or remuneration, in and to a invention; and to execute a	pon request of the said ny improvements, and ny papers by the said
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Nan	ne: Shereef SHEHATA	Date		
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Nao	ne: Sandeep Kumar GOEL	Date	:	
3)				
Nan	no: Tze-Chiang MUANG	Date		
4)	ne: Tze-Chiyag BUANG ne: Vin-Han LEE		4/12/2016	
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5)				
Nan	na: Mei WONG	Date		
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PATENT REEL: 038394 FRAME: 0454

RECORDED: 04/27/2016