# 506316720 10/22/2020 PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT6363469

UBMISSION TYPE:		NEW ASSIGNME	ENT		
NATURE OF CONVEYANCE:		ASSIGNMENT			
CONVEYING PARTY D	ΑΤΑ				
		Name			Execution Date
MICHAEL CARCASI					09/15/2020
MARK SOMERVELL					10/22/2020
JOSHUA HOOGE					09/18/2020
ASAHIDE TADOKOR	0				10/20/2020
RECEIVING PARTY DA	ΑΤΑ				
Name:	TOKY	ELECTRON LIMITED			
Street Address:	AKASA	KA BIZ TOWER			
Internal Address:	3-1 AK	3-1 AKASAKA 5-CHOME, MINATO-KU			
City:	ΤΟΚΥ	TOKYO			
State/Country:	JAPAN	JAPAN			
Postal Code:	107-63	107-6325			
	G Total: 1	Numbe	r		
PROPERTY NUMBERS Property Type	G Total: 1		r		
PROPERTY NUMBERS	S Total: 1	Numbe	r		
PROPERTY NUMBERS Property Type Application Number: CORRESPONDENCE I	S Total: 1	Number 17037050 the e-mail address fii	rst; if that is ur		
PROPERTY NUMBERS Property Type Application Number: CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone:	S Total: 1	Number 17037050 <i>the e-mail address fii</i> ; <i>if that is unsuccessf</i> 512.424.1000	rst; if that is ur ful, it will be se		
PROPERTY NUMBERS Property Type Application Number: CORRESPONDENCE I Fax Number: Correspondence will k using a fax number, if Phone: Email:	S Total: 1	Number 17037050 the e-mail address fin ; if that is unsuccessi 512.424.1000 FEHIPDocket@us.tel.c	r <i>st; if that is ur</i> ful, it will be se om	ent via US M	
PROPERTY NUMBERS Property Type Application Number: CORRESPONDENCE I Fax Number: Correspondence will b using a fax number, if Phone: Email: Correspondent Name:	S Total: 1	Number 17037050 <i>the e-mail address fin</i> <i>; if that is unsuccessf</i> 512.424.1000 TEHIPDocket@us.tel.cr TOKYO ELECTRON U	r <i>st; if that is ur</i> ful, it will be se om	ent via US M	
PROPERTY NUMBERS Property Type Application Number: CORRESPONDENCE I Fax Number: Correspondence will b using a fax number, if	S Total: 1	Number 17037050 the e-mail address fin ; if that is unsuccessi 512.424.1000 FEHIPDocket@us.tel.c	r <i>st; if that is ur</i> ful, it will be se om .S. HOLDINGS	ent via US M	
PROPERTY NUMBERS Property Type Application Number: CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone: Email: Correspondent Name: Address Line 1:	S Total: 1	Number 17037050 <i>the e-mail address fin</i> <i>; if that is unsuccessi</i> 512.424.1000 FEHIPDocket@us.tel.cr FOKYO ELECTRON U 2400 GROVE BLVD.	r <i>st; if that is ur</i> ful, it will be se om .S. HOLDINGS	ent via US M	
PROPERTY NUMBERS Property Type Application Number: CORRESPONDENCE I Fax Number: <i>Correspondence will b</i> <i>using a fax number, if</i> Phone: Email: Correspondent Name: Address Line 1: Address Line 4:	S Total: 1	Number 17037050 <i>the e-mail address fin</i> <i>; if that is unsuccessf</i> 512.424.1000 TEHIPDocket@us.tel.cr TOKYO ELECTRON U 2400 GROVE BLVD. AUSTIN, TEXAS 78741	r <i>st; if that is ur</i> ful, it will be se om .S. HOLDINGS	ent via US M	
PROPERTY NUMBERS Property Type Application Number: CORRESPONDENCE I Fax Number: Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1: Address Line 4:	S Total: 1	Number 17037050 the e-mail address fin ; if that is unsuccessi 512.424.1000 FEHIPDocket@us.tel.co FOKYO ELECTRON U 2400 GROVE BLVD. AUSTIN, TEXAS 78741 181570US02	r <i>st; if that is ur</i> ful, it will be se om .S. HOLDINGS	ent via US M	
PROPERTY NUMBERS Property Type Application Number: CORRESPONDENCE I Fax Number: Correspondence will b using a fax number, if Phone: Email: Correspondent Name: Address Line 1: Address Line 4: TTORNEY DOCKET N IAME OF SUBMITTER:	S Total: 1	Number 17037050 the e-mail address fin ; if that is unsuccessi 512.424.1000 FEHIPDocket@us.tel.co FOKYO ELECTRON U 2400 GROVE BLVD. AUSTIN, TEXAS 78741 181570US02 JORDAN GREGO	r <i>st; if that is ur</i> ful, it will be se om .S. HOLDINGS	ent via US M	

**Total Attachments: 8** 

source=181570US02_SignedDeclaration_Assignment#page1.tif	
source=181570US02_SignedDeclaration_Assignment#page2.tif	
source=181570US02_SignedDeclaration_Assignment#page3.tif	
source=181570US02_SignedDeclaration_Assignment#page4.tif	
source=181570US02_SignedDeclaration_Assignment#page5.tif	
source=181570US02_SignedDeclaration_Assignment#page6.tif	
source=181570US02_SignedDeclaration_Assignment#page7.tif	
source=181570US02_SignedDeclaration_Assignment#page8.tif	

# DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR NONPROVISIONAL UTILITY OR DESIGN PATENT APPLICATION

# SYSTEMS AND METHODS FOR MONITORING ONE OR MORE CHARACTERISTICS OF A SUBSTRATE

As a below named inventor, I hereby declare that:

This declaration and assignment is directed to:

The attached application having a docket number and title identified above, or Christed States application number or PCT international application number

filed on

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Assignor(s): The Assignor(s) is/are the undersigned inventor(s). The inventor(s) named below has/have made certain inventions, improvements, and/or discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application.

Assignee: The Assignee is Tokyo Electron Limited, a corporation of Japan having a place of business at Tokyo, Japan (herein referred to as the "ASSIGNEE"). The term "ASSIGNEE" used herein includes successors, legal representatives, and assigns of the ASSIGNEE. The ASSIGNEE desires to acquire the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents obtained from the Invention.

As an undersigned inventor, I hereby assign to the ASSIGNEE my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefrom in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, granted for the invention, to the ASSIGNEE, and I authorize and request foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE. The entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or

Page 1 of 2

PATENT REEL: 054139 FRAME: 0785

As an undersigned inventor, I acknowledge prior and ongoing obligations to sell, assign, and/or transfer my rights in the Invention to the ASSIGNEE. I have not sold, assigned, or otherwise transferred my rights in the Invention to another, and I am under no obligation to sell, assign, or otherwise transfer my rights in the Invention to another. I also hereby grant the ASSIGNEE, the right to insert in this Declaration and Assignment any further identification (including, but not limited to, patent application number and filing date) which may be necessary or desirable for recording this Declaration and Assignment.

(1) Legal name of Inventor:	Michael Carcasi
Inventor's Signature:	Date: 9/15/2021
Residence City/State/Country:	Austin, TX, US
Mailing Address:	2400 Grove Blvd., Austin, TX 78741, US
Mailing Address:	
Citizenship:	<u>USA</u>
(2) Legal name of Inventor.	Mark Somervell
Inventor's Signature:	Date:
Residence City/State/Country:	Hillsboro, OR, US
Mailing Address:	3188 NE Aloclek Dr., Hillsboro, OR 97124, US
Mailing Address:	
Citizenship:	
(3) Legal name of Inventor.	Joshua Hooge
Inventor's Signature:	Date:
Residence City/State/Country:	Austin, TX, US
Mailing Address:	2400 Grove Blvd., Austin, TX 78741, US
Mailing Address:	
Citizenship:	
	1012 - 1919 - 1010 - 1010 - 101
(4) Legal name of Inventor:	Mashide Tadokoro
Inventor's Signature:	Date:
Residence City/State/Country:	
Mailing Address:	1-1 Fukuhara, Koshi City, Kumamoto 861-1116, JP
Mailing Address:	
Citizenship:	

Page 2 of 2

## DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR NONPROVISIONAL UTILITY OR DESIGN PATENT APPLICATION

# SYSTEMS AND METHODS FOR MONITORING ONE OR MORE CHARACTERISTICS OF A SUBSTRATE

As a below named inventor, I hereby declare that:

This declaration and assignment is directed to:

The attached application having a docket number and title identified above, or X United States application number or PCT international application number

filed on

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

**Assignor(s)**: The Assignor(s) is/are the undersigned inventor(s). The inventor(s) named below has/have made certain inventions, improvements, and/or discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application.

**Assignee**: The Assignee is **Tokyo Electron Limited**, a corporation of Japan having a place of business at Tokyo, Japan (herein referred to as the "ASSIGNEE"). The term "ASSIGNEE" used herein includes successors, legal representatives, and assigns of the ASSIGNEE. The ASSIGNEE desires to acquire the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents obtained from the Invention.

As an undersigned inventor, I hereby assign to the ASSIGNEE my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefrom in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, granted for the invention, to the ASSIGNEE, and I authorize and request foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE. The entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or

Page 1 of 2

PATENT REEL: 054139 FRAME: 0787

As an undersigned inventor, I acknowledge prior and ongoing obligations to sell, assign, and/or transfer my rights in the Invention to the ASSIGNEE. I have not sold, assigned, or otherwise transferred my rights in the Invention to another, and I am under no obligation to sell, assign, or otherwise transfer my rights in the Invention to another. I also hereby grant the ASSIGNEE, the right to insert in this Declaration and Assignment any further identification (including, but not limited to, patent application number and filing date) which may be necessary or desirable for recording this Declaration and Assignment.

(1) Legal name of Inventor:	Michael Carcasi
Inventor's Signature:	Date:
Residence City/State/Country:	Austin, TX, US
Mailing Address:	2400 Grove Blvd., Austin, TX 78741, US
Mailing Address:	
Citizenship:	
(2) Legal name of Inventor:	Mark Somervell
Inventor's Signature:	Mark Domanni Date: 10-22-20
Residence City/State/Country:	Hillsboro, OR, US
Mailing Address:	3188 NE Aloclek Dr., Hillsboro, OR 97124, US
Mailing Address:	
Citizenship:	
(3) Legal name of Inventor:	Joshua Hooge
Inventor's Signature:	Date:
Residence City/State/Country:	Austin, TX, US
Mailing Address:	2400 Grove Blvd., Austin, TX 78741, US
Mailing Address:	
Citizenship:	
(4) Legal name of Inventor:	Mashide Tadokoro
Inventor's Signature:	Date:
Residence City/State/Country:	Koshi City, Kumamoto, JP
Mailing Address:	1-1 Fukuhara, Koshi City, Kumamoto 861-1116, JP
Mailing Address:	
Citizenship:	

#### DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR NONPROVISIONAL UTILITY OR DESIGN PATENT APPLICATION

## SYSTEMS AND METHODS FOR MONITORING ONE OR MORE CHARACTERISTICS OF A SUBSTRATE

As a below named inventor, I hereby declare that:

This declaration and assignment is directed to:

The attached application having a docket number and title identified above, or X United States application number or PCT international application number

filed on

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

I am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

Assignor(s): The Assignor(s) is/are the undersigned inventor(s). The inventor(s) named below has/have made certain inventions, improvements, and/or discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application.

Assignee: The Assignee is Tokyo Electron Limited, a corporation of Japan having a place of business at Tokyo, Japan (herein referred to as the "ASSIGNEE"). The term "ASSIGNEE" used herein includes successors, legal representatives, and assigns of the ASSIGNEE. The ASSIGNEE desires to acquire the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents obtained from the Invention.

As an undersigned inventor, I hereby assign to the ASSIGNEE my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefrom in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, granted for the invention, to the ASSIGNEE, and I authorize and request foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE. The entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or

Page 1 of 2

PATENT REEL: 054139 FRAME: 0789

As an undersigned inventor, I acknowledge prior and ongoing obligations to sell, assign, and/or transfer my rights in the Invention to the ASSIGNEE. I have not sold, assigned, or otherwise transferred my rights in the Invention to another, and I am under no obligation to sell, assign, or otherwise transfer my rights in the Invention to another. I also hereby grant the ASSIGNEE, the right to insert in this Declaration and Assignment any further identification (including, but not limited to, patent application number and filing date) which may be necessary or desirable for recording this Declaration and Assignment.

(1) Legal name of Inventor:	Michael Carcasi
Inventor's Signature:	Date:
Residence City/State/Country:	Austin, TX, US
Mailing Address:	2400 Grove Blvd., Austin, TX 78741, US
Mailing Address:	
Citizenship:	
(2) Legal name of Inventor:	Mark Somervell
Inventor's Signature:	Date:
Residence City/State/Country:	Hillsboro, OR, US
Mailing Address:	3188 NE Aloclek Dr., Hillsboro, OR 97124, US
Mailing Address:	
Citizenship:	
(3) Legal name of Inventor:	Joshua Hooge
Inventor's Signature:	Date: 09/18/2020
Residence City/State/Country:	Austin, TX, US
Mailing Address:	2400 Grove Blvd., Austin, TX 78741, US
Mailing Address:	
Citizenship:	
(4) Legal name of Inventor:	Mashide Tadokoro
Inventor's Signature:	Date:
Residence City/State/Country:	Koshi City, Kumamoto, JP
Mailing Address:	1-1 Fukuhara, Koshi City, Kumamoto 861-1116, JP
Mailing Address:	
Citizenshin	

Page 2 of 2

Atty. Docket No. 181570US02

#### DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR NONPROVISIONAL UTILITY OR DESIGN PATENT APPLICATION

#### SYSTEMS AND METHODS FOR MONITORING ONE OR MORE CHARACTERISTICS OF A SUBSTRATE

As a below named inventor, I hereby declare that:

This declaration and assignment is directed to:

	The
Х	Uni

he attached application having a docket number and title identified above, or Inited States application number or PCT international application number filed on

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-identified application.

I have reviewed and understand the contents of the above-identified application, including the claims.

am aware of the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this Declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

**Assignor(s)**: The Assignor(s) is/are the undersigned inventor(s). The inventor(s) named below has/have made certain inventions, improvements, and/or discoveries (herein referred to as the "Invention") disclosed in the above-identified patent application.

Assignee: The Assignee is Tokyo Electron Limited, a corporation of Japan having a place of business at Tokyo, Japan (herein referred to as the "ASSIGNEE"). The term "ASSIGNEE" used herein includes successors, legal representatives, and assigns of the ASSIGNEE. The ASSIGNEE desires to acquire the entire worldwide right, title, and interest in and to the Invention and in and to any and all patent applications and patents obtained from the Invention.

As an undersigned inventor, I hereby assign to the ASSIGNEE my entire worldwide right, title, and interest in and to the Invention, the above-identified United States patent application, and any and all other patent applications and patents for the Invention which may be applied for or granted therefrom in the United States and in all foreign countries and jurisdictions, including all divisions, continuations, reissues, reexaminations, renewals, extensions, counterparts, substitutes, and extensions thereof, and all rights of priority resulting from the filing of such applications and granting of such patents. In addition, I hereby authorize and request the Director of the United States Patent and Trademark Office to issue any United States Patent, granted for the invention, to the ASSIGNEE, and I authorize and request foreign patent authorities to issue any foreign patent, granted for the Invention, to the ASSIGNEE. The entire worldwide right, title, and interest in and to the same to be held and enjoyed by the ASSIGNEE, to the full end of the terms for which any and all such patents may be granted, as fully and entirely as would have been held and enjoyed by the undersigned had this Assignment not been made. I agree to execute any and all documents and instruments and perform all lawful acts reasonably related to recording this Assignment or

Page 1 of 2

As an undersigned inventor, I acknowledge prior and ongoing obligations to sell, assign, and/or transfer my rights in the Invention to the ASSIGNEE. I have not sold, assigned, or otherwise transferred my rights in the Invention to another, and I am under no obligation to sell, assign, or otherwise transfer my rights in the Invention to another. I also hereby grant the ASSIGNEE, the right to insert in this Declaration and Assignment any further identification (including, but not limited to, patent application number and filing date) which may be necessary or desirable for recording this Declaration and Assignment.

(1) Legal name of Inventor:	Michael Carcasi
Inventor's Signature:	Date:
Residence City/State/Country:	Austin, TX, US
Mailing Address:	2400 Grove Blvd., Austin, TX 78741, US
Mailing Address:	
Citizenship:	
(2) Legal name of Inventor:	Mark Somervell
Inventor's Signature:	Date:
Residence City/State/Country:	Hillsboro, OR, US
Mailing Address:	3188 NE Aloclek Dr., Hillsboro, OR 97124, US
Mailing Address:	
Citizenship:	· · · · · · · · · · · · · · · · · · ·
(3) Legal name of Inventor:	Joshua Hooge
Inventor's Signature:	Date:
Residence City/State/Country:	Austin, TX, US
Mailing Address:	2400 Grove Blvd., Austin, TX 78741, US
Mailing Address:	
Citizenship:	
(4) Legal name of Inventor:	Mashide Tadokoro
Inventor's Signature:	Masshide Tadokoro Date: October 20, 2020
Residence City/State/Country:	Koshi City, Kumamoto, JP
Mailing Address:	1-1 Fukuhara, Koshi City, Kumamoto 861-1116, JP
Mailing Address:	
Citizenship:	Japan
	-

Page 2 of 2

**RECORDED: 10/22/2020**