## 505421203 04/10/2019

# **PATENT ASSIGNMENT COVER SHEET**

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
HYUNG-NAM CHOI	05/29/2008

## **RECEIVING PARTY DATA**

Name:	APPLE INC.	
Street Address:	ONE APPLE PARK WAY	
City:	CUPERTINO	
State/Country:	CALIFORNIA	
Postal Code:	95014	

### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16380485

#### **CORRESPONDENCE DATA**

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NAME OF SUBMITTER:	MICHAEL J. MARCIN	
SIGNATURE:	/Michael J. Marcin/	
DATE SIGNED:	04/10/2019	

**Total Attachments: 2** 

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PATENT 505421203 REEL: 048849 FRAME: 0580

PATENT Docket No. APPLE.092A/P6220US1

Application No.: 12/150,485 Filing Date: April 28, 2008

#### ASSIGNMENT

WHEREAS, I, HYUNG-NAM CHOI, hereinafter referred to as the assignor, a citizen of Germany, residing at Amrumer Knick 11, 22117 Hamburg, Germany, am the sole inventor of certain new and useful improvements in an APPARATUS AND METHODS FOR TRANSMISSION AND RECEPTION OF DATA IN MULTI-ANTENNA SYSTEMS; for which an application for a United States Patent was filed on April 28, 2008 as Application Serial No. 12/150,485; and

WHEREAS, APPLE INC., hereinafter referred to as the assignee, of 1 Infinite Loop, M/S 40-PAT, Cupertino, CA 95014, a corporation of the State of California, is desirous of acquiring the entire right, title and interest in and to the said new and useful improvements and in and to the said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in any and all countries:

NOW, THEREFORE, for and in consideration of the sum of One Dollar (\$1.00) to me in hand paid by said assignee, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, the said assigner, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over to said assignee, the entire right, title and interest in and to said new and useful improvements and said application and any and all continuations, divisions and renewals of and substitutes for said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in the United States and any and all other countries, and any reissue or reissues or extension or extensions of said Letters Patent, and assign to and authorize said assignee, to file in my name applications for Letters Patent in all countries, the same to be held and enjoyed by said assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by me had this assignment, sale and transfer not been made.

AND I hereby covenant that I have full right to convey the entire interest herein assigned, and that I have not executed and will not execute any agreement in conflict herewith, and I further covenant and agree that I will each time request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said new and useful improvements, said application and said Letters Patent to said assignee, its successors, assigns, nominees, or legal representatives, and I agree to communicate to said assignee or to its nominee all known facts respecting said new and useful improvements, said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers, to execute all disclaimers and divisional, continuing, reissue and foreign applications, to make all rightful oaths, and generally to do everything possible to aid said assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit proper patent protection for said new and useful improvements in any and all countries.

AND I hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to said assignee, as assignee of the entire right, title and interest, any and all Letters Patent for said new and useful improvements, including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

PATENT REEL: 048849 FRAME: 0581

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PATENT Docket No. APPLE.092A/P6220US1

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Application No.: 12/150,485 Filing Date: April 28, 2008

ASSIGNMENT

2008.

**PATENT** REEL: 048849 FRAME: 0582

**RECORDED: 04/10/2019**