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Washington, D.C. 20231

Signature

the original document.

Name of Person Signing Registration No. 31,311

Randy W. Tung

67,200-516

December 20, 2001

Date

ASSIGNMENT

WHEREAS, I, YUE-DER CHIH have invented certain improvements in

SOURCE LINE HIGH VOLTAGE DRIVER CIRCUIT WITH IMPROVED RELIABILITY AND READ PERFORMANCE

for which I am about to make application for Letters Patent of the United States; and

WHEREAS, TAIWAN SEMICONDUCTOR MANUFACTURING CO., LTD. of

No. 121, Park Avenue 3, Science-Based Industrial Park, Hsin-Chu, Taiwan, R.O.C, is desirous of

acquiring the entire right, title and interest in and to said invention;

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and

valuable consideration, the receipt of which is hereby acknowledged, I, YUE-DER CHIH by these

presents, do hereby sell, assign and transfer unto the said corporation and its assigns, for the territory

of the United States of America and all foreign countries, the entire right, title and interest, including

all priority rights under the International Convention associated with each country of the Union, in

and to said invention as described in the patent application executed by me on the $\frac{1}{2} \frac{1}{2} \frac$

, 2001, preparatory to obtaining Letters Patent of the United States thereon, and

in and to said application and any Letters Patent that may be granted in pursuance of said application

1

PATENT REEL: 012419 FRAME: 0481 67,200-516 2001-0034

and any divisional, continuation or continuation-in-part application thereof, and in and to any reissue

of any such patent, and in and to any patent applications which may be filed on said invention in

countries foreign to the United States and any Letters Patent granted thereon.

I further authorize said corporation to apply for foreign patents on said invention in

its own name or through its designees, including subsidiaries, related companies or assignees, under

the International Convention or otherwise, and I further agree to execute all papers, including those

required for the United States and foreign applications, and to perform such other proper acts as said

corporation or its designees the rights herein assigned.

yne-De Chil YUE-DER CHIH

TUNG & ASSOCIATES 838 W. Long Lake Road Suite 120 Bloomfield Hills, Michigan 48302

2

PATENT REEL: 012419 FRAME: 0482