Commissioner of Patents & Trademarks, Box Assignments Washington, D.C. 20231

ASSIGNMENT

WHEREAS, we, <u>WONG-CHENG SHIH, TAI BOR WU</u> and CHICH SHANG

CHANG have invented certain improvements in MICROELECTRONIC CAPACITOR WITH

BARRIER LAYER for which we are 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;

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PATENT REEL: 012163 FRAME: 0082 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.

We 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 we 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.

Wong long Shill Jai Bor Wu
TAI BOR WU

Chich-Shang Chang CHICH SHANG CHANG

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

RECORDED: 09/06/2001

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