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Improvement of Electromigration Resistance of AlCu/TiN Lines by Controlling Aluminum Microstructure

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Improvement of Electromigration Resistance of AlCu/TiN Lines by Controlling Aluminum Microstructure*

Synopsis:

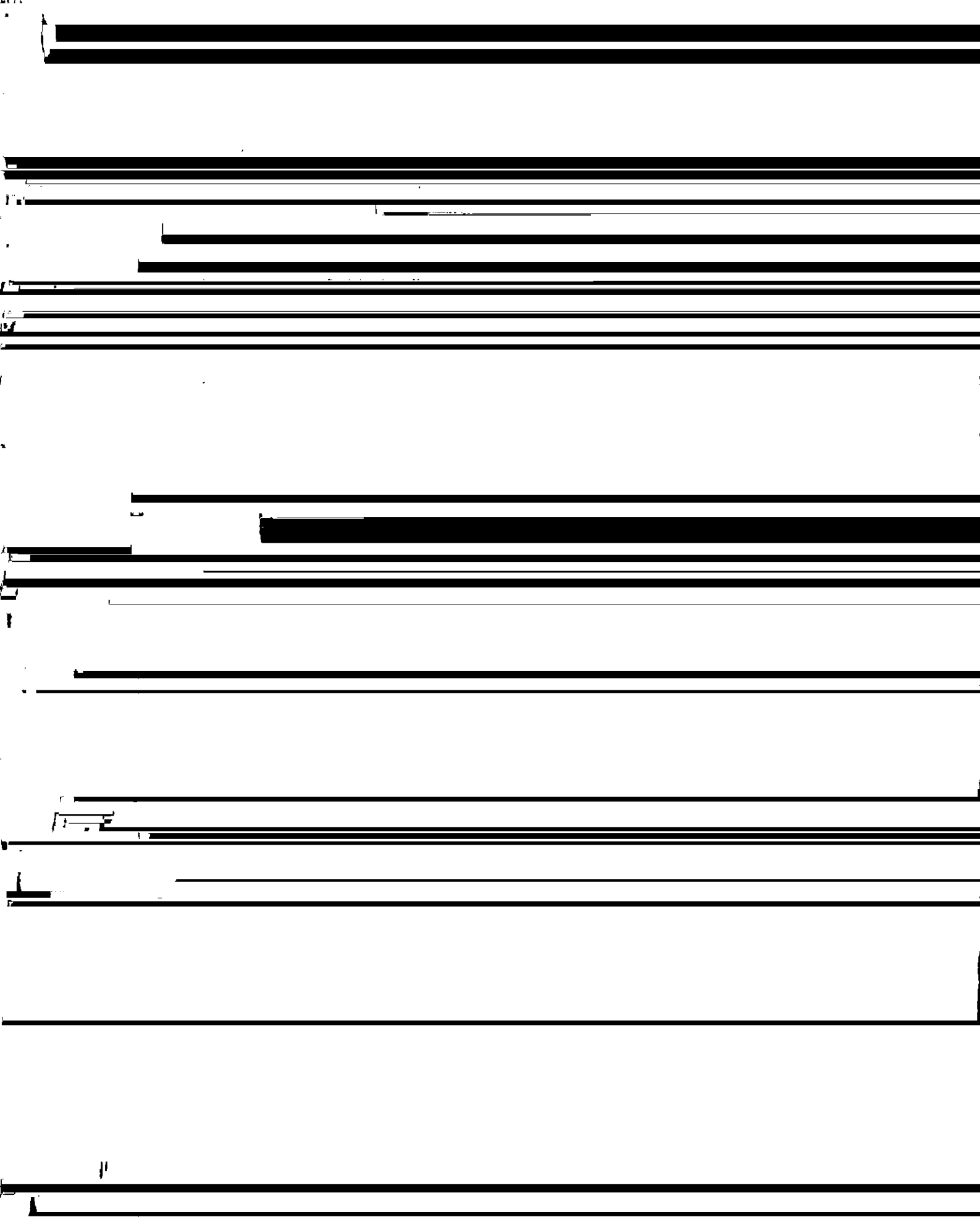
Two techniques for improving electromigration (EMI)

TiN/Cu/TiN/Ti metal line. It was supposed that dur- Ti multilayered structure. These multilayered films were

(a) Al film sputtered on as-

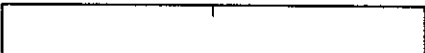
(a) As-sputtered (sp-TiN)

60



of 10, 50 and 100 h at 250°C, assuming that, in addition to Cu redistribution, such EM factors as Al grain size

(9)





A model which explains our results has been pro-

by EDX after aging treatment. The amount of