1. Nar Michae (03/12/ Additiona attached 3. Natu X Ass Sec Ott Execut	ne of conveying party(i el HUTTON (03/16/2004) 2004), and Rahul SAIN 3 22 al name(s) of conveying party ? ure of Conveyance: signment curity Agreement her	es): 4), Andy L. LEE NI (03/11/2004) (ies) Yes () Merger Change of Nan x 1, conveying parties	Name: <u>Altera Con</u> Internal Address: Street Address: 101 Innovation D City: <u>San Jose</u> State: <u>CA</u> Additional name(s) address(es) attach	rporation	
If this do		her with a new application	n, the execution date of the new ap B. Patent No.(s):		16, 2004
conce Name: Interna Street A	and address of party to rning document should Alan S. Hodes MORRISON & FOERS I Address: Atty. Dkt.: : Address: e Mill Road	t be mailed:	7. Total fee (37 CFI	R 3.41) \$ to be charged to dep to be charged to crea closed)	
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ASSIGNMENT JOINT

THIS ASSIGNMENT, by Michael HUTTON, Andy L. LEE, and Rahul SAINI (hereinafter referred to as the assignors), residing at 209 Post Street, Mountain View, California 94040; 6936 Rainbow Drive, San Jose, California 95129; and 131 Red Cedar Lane, Union City, California 94587, respectively, witnesseth:

WHEREAS, said assignors have invented certain new and useful improvements in SHARED LOOKUP TABLE ENHANCEMENTS FOR THE EFFICIENT IMPLEMENTATION OF BARREL SHIFTERS, set forth in an application for Letters Patent of the United States, having an oath or declaration executed on even date herewith; and

WHEREAS, Altera Corporation, a corporation duly organized under and pursuant to the laws of Delaware and having its principal place of business at 101 Innovation Drive, San Jose, California 95134 (hereinafter referred to as the assignee) is desirous of acquiring the entire right, title and interest in and to said inventions and said application for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

NOW, THEREFORE, in consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, said assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said assignee, its successors, legal representatives and assigns, the entire right, title and interest in and to the above-mentioned inventions, application for Letters Patent, and any and all Letters Patent or Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations and continuations-in-part of said application, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by said assignee, for its own use and the use of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents may be granted, as fully and entirely as the same would have been held and enjoyed by the assignors, had this sale and assignment not been made.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said assignors are the sole and lawful owners of the entire right, title and interest in and to said inventions and the application for Letters Patent above-mentioned, and that the same are unencumbered and that said assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, said assignors hereby covenant and agree to and with said assignee, its successors, legal representatives and assigns, that said assignors will, whenever counsel of said assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or said application for Letters Patent, or any proceeding in connection with Letters Patent for said inventions in any country, including interference proceedings, is lawful and desirable, or that any division, continuation or

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continuation-in-part of any application for Letters Patent or any reissue or extension of any Letters Patent, to be obtained thereon, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to said assignee, its successors, legal representatives and assigns, but at the cost and expense of said assignee, its successors, legal representatives and assigns.

AND said assignors hereby request the Commissioner of Patents to issue said Letters Patent of the United States to said assignee as the assignee of said inventions and the Letters Patent to be issued thereon for the sole use of said assignee, its successors, legal representatives and assigns.

Michael Date Andv

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PATENT REEL: 015133 FRAME: 0747