LIST OF SYMBOLS

$T_A$  
Addition time

$T_b$  
Bit cycle

$b(.)$  
Bit-vectors

$C_{in}$  
Carry-in

$T$  
Cycle period

$J$  
DWT level

$T_{FA}$  
Full adder delay

$U$  
Hardware utilization efficiency

$d(m,n)$  
High-high subband component of 2-D DWT

$D$  
High-high subband matrix of 2-D DWT

$c(m,n)$  
High-low subband component of 2-D DWT

$C$  
High-low subband matrix of 2-D DWT

$g(n)$  
High-pass filter coefficient of 1-D DWT

$u_h(m,n)$  
High-pass intermediate component of 2-D DWT

$U_h$  
High-pass intermediate matrix of 2-D DWT

$u_h(n)$  
High-pass subband component of 1-D DWT

$M$  
Image height

$N$  
Image width or length of 1-D signal

$P$  
Input block size

$X$ or $A^0$  
Input matrix

$x(n)$ or $u_i^0$  
Input signal of 1-D DWT

$x(m,n)$  
Input signal of 2-D DWT

$k$  
Length of filter

$k_2$  
Length of high-pass filter

$k_1$  
Length of low-pass filter

$a, \beta, \gamma$ and $\delta$  
Lifting constants

$b(m,n)$  
Low-high subband component of 2-D DWT

$B$  
Low-high subband matrix of 2-D DWT

$a(m,n)$  
Low-low subband component of 2-D DWT

$A$  
Low-low subband matrix of 2-D DWT
\( h(n) \)  Low-pass filter coefficient of 1-D DWT
\( u_i(m,n) \)  Low-pass intermediate component of 2-D DWT
\( U_l \)  Low-pass intermediate matrix of 2-D DWT
\( u_l(n) \)  Low-pass subband component of 1-D DWT
\( F(.) \)  Memory read operation
\( T_{MR} \)  Memory read time
\( T_M \)  Multiplication time
\( P(z) \)  Polyphase matrix
\( K \)  Scaling constant
\( G(z) \)  System function of high-pass filter of 1-D DWT
\( H(z) \)  System function of low-pass filter of 1-D DWT
\( s(z) \)  System function of predict unit of lifting step
\( t(z) \)  System function of update unit of lifting step
\( L \)  Word length