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LIST OF SYMBOLS AND ABBREVIATIONS

Symbols

ω	-	Angular Frequency
S	-	Coefficient set
e_1, e_2	-	Coefficient values
C	-	Cost of multiplier block
C_1, C_2	-	Cost of the Coefficient values
$H(e^{j\omega})$	-	DTFTs of the impulse response
$X(e^{j\omega})$	-	DTFTs of the input sequence
$Y(e^{j\omega})$	-	DTFTs of the output sequence
$c[0], c[1]$	-	Filter Coefficients
h	-	Filter Coefficient
a_k	-	IIR coefficients
b_k	-	IIR coefficients
$h(n)$	-	Impulse response
$x(n)$	-	Input sequence
C_c	-	Maximum Number of common fundamentals
μm	-	Micrometer
mW	-	Milliwatt
$ T $	-	Modulus of partial sum T
M	-	Order of the filter
$y(n)$	-	Output sequence
t_i and t_j	-	Partial sums
p_i and p_j	-	Shifted values
E	-	Slice estimate

Σ	-	Summation
N	-	Total number of adder graphs
$H(z)$	-	z-transform of the impulse response
$X(z)$	-	z-transform of the input sequence
$Y(z)$	-	z-transform of the output sequence

Abbreviations

AIC	-	Adaptive Interference Cancelling
ASIC	-	Application Specific Integrated Circuit
BCS	-	Binary Common Subexpression
BCSE	-	Binary Common Sub-expression Elimination
BHCSE	-	Binary Horizontal Common Subexpression Elimination
BHM	-	Bull-Horrocks Modified
CCFF	-	Conditional Capture Flip-Flop
CLBs	-	Configurable Logic Blocks
CMOS	-	Complementary Metal–Oxide–Semiconductor
CPA	-	Carry Propagation Adder
CPLD	-	Complex Programmable Logic Device
CSD	-	Canonical Signed Digit
CSE	-	Common Subexpression Elimination
CSHM	-	Computation Sharing Multiplier
CSM	-	Constant Shift Method
CSPT	-	Common Signed-power-of-two
CSS	-	Common Subexpressions
DA	-	Distributed Arithmetic
DCT	-	Direct Cosine Transform
DFT	-	Discrete Fourier Transform

DSL	-	Digital Subscriber Line
DSP	-	Digital Signal Processing
DSPs	-	Digital Signal Processors
EB	-	Error Bound
EDA	-	Electronic Design Automation
FA	-	Full Adder
FFTs	-	Fast Fourier Transforms
FIR	-	Finite Impulse Response
FPGA	-	Field Programmable Gate Array
FT	-	Fourier Transform
GOPS	-	Giga Operations Per Second
GPPs	-	General-Purpose Processors
HCSs	-	Horizontal Common Subexpressions
HDL	-	Hardware Description Language
IDFT	-	Inverse Discrete Fourier Transform
IF	-	Intermediate Frequency
IIR	-	Infinite Impulse Response
IP	-	Intellectual Property
LOs	-	Logic Operators
LSB	-	Least Significant Bit
LTI	-	Linear Time Invariant
LUT	-	Look Up Table
MAC	-	Multiply and Accumulate
MAG	-	Minimum Adder Graph
MBAs	-	Multiplier Block Adders
MSB	-	Most Significant Bit
NPG	-	Noise Power Gain
PFP	-	Pseudo Floating-point
PPG	-	Partial Product Generator

PRML	-	Partial-response Maximum-likelihood
PSM	-	Programmable Shift Method
RCEUS	-	Reconfigurable Execution Units
ReMB	-	Reconfigurable Multiplier Blocks
RS	-	Reed–Solomon
SDR	-	Software-Defined Radio
SLI	-	System Level Integration
SoC	-	System-on-Chip
SPT	-	Signed-Power-of-Two
SRL	-	Shift Register Logic
SRR	-	Software Radio Receiver
UMTS	-	Universal Mobile Telephone Service
VCSE	-	Vertical Subexpression Elimination
VCSs	-	Vertical Common Subexpressions
VLSI	-	Very Large Scale Integration