

## LIST OF NOTATIONS

Symbols	Definition
<b>b</b>	Information bits
$\hat{\mathbf{b}}$	Expected codewordbits
$\hat{c}$	Expected codewordbits
<b>c</b>	Codeword bits
<b>C</b>	Check nodes
$\tilde{\mathbf{C}}$	Extension check nodes
<i>CSI</i>	Channel state information
$d_v$	Degree of variable nodes
$d_c$	Degree of check nodes
<b>E</b>	Expected
<i>EP</i>	Extended parity
<i>exp</i>	Exponen
$\mathcal{F}$	Fraction
$\mathcal{G}$	Global iteration
<b>G</b>	Generator matrix
<i>h</i>	Path
<b>H</b>	Parity check matrix
<b>I</b>	Identity matrix
<i>I</i>	Core check iteration
$I_A$	<i>Apriori</i> mutual information
$I_E$	Extrinsic mutual information
$I_P$	<i>Posteriori</i> mutual information
<i>J</i>	J Function
<i>K</i>	Information bit length
$L_A$	<i>Apriori</i> Log likelihood Ratio
$L_E$	Extrinsic Log likelihood Ratio
$L_{ch}$	Channel Log Likelihood Ratio
$\mathcal{L}$	Extension check iteration
<i>M</i>	Mapper
<b>n</b>	noise
<i>N</i>	Block-length
<b>P</b>	Parity matrix
<i>r</i>	Attempt of IRHARQ
<b>V</b>	Variable nodes

Symbols	Definition
$\tilde{V}$	Extension variable nodes
$\mathbf{x}$	Transmitted signal
$\mathbf{y}$	Received signal
$\sigma_{ch}$	Bit-error rate
$\Pi$	Interleaver
$z$	C-BPSK symbol reference
$Z$	Liftingsize
$\Lambda_V$	Degree distribution of variable nodes
$\Omega_C$	Degree distribution of check nodes
$\Gamma$	Shifting number