LIST OF NOTATIONS

Symbols	Definition
$\alpha(x)$	Edge-perspective degree distribution of CND
$\beta(x)$	Edge-perspective degree distribution of VND
δ	Gap
ϵ	Erasure probability in channels
η	Spectrum efficiency
γ	Erasure probability between LT and LDGM codes
$\Lambda(x)$	Node-perspective degree distribution of IND
$\lambda(x)$	Edge-perspective degree distribution of IND
$\Omega(x)$	Node-perspective degree distribution of OND
$\omega(x)$	Edge-perspective degree distribution of OND
ψ	Eigen value (power of each parallel channel)
σ	Variance
τ	Maximum probability of error
$A(x)$	Node-perspective degree distribution of CND
a	Erasure probability from CND to VND
$B(x)$	Node-perspective degree distribution of VND
b_N	N^{th} encoded bits
c_l	l^{th} codeword bits
c_p	Cyclic prefix
C	Shannon channel capacity
CND	Check nodes
D	LDGM-Raptor codes global iteration
d	The chosen value of input bits on degree distribution process
E	Extrinsic
e	Bit-error rate
F	Fast Fourier transform
F^H	Inverse fast Fourier transform
f	Sample of frequency function
G	Generator matrix
g	Iteration inside LDGM codes
H	Parity check matrix
h	Path

Symbols	Definition
I	Mutual informations
IND	Input nodes
$J(\cdot)$	J-function
K	Number of source symbols
k	Number of CND
$L(y)$	The received LLR symbol
l	Number of codeword symbols
M_h	Memory of hardware
M	Modulation
N	Number of encoded symbols
N_a	Number of apps
N_b	Number of base stations
N_d	Number of devices
n	Noise
OND	Output nodes
p	Erasure probability from OND to IND
p_w	Power
Q	FFT block size
q	Erasure probability from IND to OND
R_x	Receiver
R	Coding rate
r	Block-length
S_k	k^{th} CND
s_U	U^{th} OND
T_x	Transmitter
t	Iteration inside LT codes
U	Number of OND
u	Erasure probability from VND to CND
VND	Variable nodes
v	Set of erasure probability
x	Transmitted symbols
y	Received symbols
z	Symbols affected by noise