



LTE

The UMTS Long Term Evolution

FROM THEORY TO PRACTICE

Edited by: Stefania Sesia • Issam Toufik • Matthew Baker

SECOND EDITION

Including Release 10 for LTE-Advanced



LTE – The UMTS Long Term Evolution

From Theory to Practice

Second Edition

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List of Acronyms

* An asterisk indicates that the acronym can have different meanings depending on the context. The meaning is clearly indicated in the text when used.

3GPP 3 rd Generation Partnership Project	ARIB Association of Radio Industries and Businesses
3GPP2 3 rd Generation Partnership Project 2	ARP Almost Regular Permutation*
ABS Almost Blank Subframe	ARP Allocation and Retention Priority*
AC Access Class	ARQ Automatic Repeat reQuest
ACI Adjacent Channel Interference	AS Access Stratum*
ACIR Adjacent Channel Interference Ratio	AS Angular Spread*
ACK Acknowledgement	A-SEM Additional SEM
ACLR Adjacent Channel Leakage Ratio	ATDMA Advanced TDMA
ACS Adjacent Channel Selectivity	ATIS Alliance for Telecommunications Industry Solutions
ADC Analogue to Digital Converter	AuC Authentication Centre
ADSL Asymmetric Digital Subscriber Line	AWGN Additive White Gaussian Noise
AGI Antenna Gain Imbalance	BCC Base station Colour Code
A-GNSS Assisted Global Navigation Satellite System	BCH Broadcast CHannel
AM Acknowledged Mode	BCCH Broadcast Control CHannel
AMC Adaptive Modulation and Coding	BCJR Algorithm named after its inventors, Bahl, Cocke, Jelinek and Raviv
AMPS Analogue Mobile Phone System	BER Bit Error Rate
AMR Adaptive MultiRate	BLER BLock Error Rate
ANR Automatic Neighbour Relation	BM-SC Broadcast-Multicast Service Centre
ANRF Automatic Neighbour Relation Function	BP Belief Propagation
AoA Angle-of-Arrival	BPRE Bits Per Resource Element
AoD Angle-of-Departure	bps bits per second
APN Access Point Name	BPSK Binary Phase Shift Keying
APP A-Posteriori Probability	BSIC Base Station Identification Code
ARFCN Absolute Radio Frequency Channel Number	BSR Buffer Status Reports
	CAPEX CAPital EXpenditure
	CAZAC Constant Amplitude Zero AutoCorrelation

CB Circular Buffer	CRS Common Reference Signal
CBF Coordinated Beamforming	CS Circuit-Switched*
CC Component Carrier	CS Cyclic Shift*
CCCH Common Control CHannel	CSA Common Subframe Allocation
CCE Control Channel Element	CSG Closed Subscriber Group
CCI Co-Channel Interference	CSI Channel State Information
CCO Cell Change Order	CSI-RS Channel State Information RS
CCSA China Communications Standards Association	CSIT Channel State Information at the Transmitter
CDD Cyclic Delay Diversity	CTF Channel Transfer Function
CDF Cumulative Distribution Function	CVA Circular Viterbi Algorithm
CDL Clustered Delay Line	CVQ Channel Vector Quantization
CDM Code Division Multiplex(ed/ing)	CW Continuous-Wave
CDMA Code Division Multiple Access	DAB Digital Audio Broadcasting
C/I Carrier-to-Interference ratio	DAC Digital to Analogue Converter
CID Cell ID	DAI Downlink Assignment Index
CIF Carrier Indicator Field	dB deci-Bel
CF Contention-Free	d.c. direct current
CFI Control Format Indicator	DCCH Dedicated Control CHannel
CFO Carrier Frequency Offset	DCFB Direct Channel FeedBack
CINR Carrier-to-Interference-and-Noise Ratio	DCI Downlink Control Information
CIR Channel Impulse Response	DFT Discrete Fourier Transform
CM Cubic Metric	DFT-S-OFDM DFT-Spread OFDM
CMAS Commercial Mobile Alert Service	Diffserv Differentiated Services
CMHH Constant Modulus HouseHolder	DL DownLink
CN Core Network	DL-SCH DownLink Shared CHannel
CoMP Coordinated MultiPoint	DMB Digital Mobile Broadcasting
CODIT UMTS Code Division Testbed	DM-RS DeModulation-RS
COFDM Coded OFDM	DOA Direction Of Arrival
CP Cyclic Prefix	DPC Dirty-Paper Coding
CPICH Common Pilot CHannel	DRB Data Radio Bearer
CPR Common Phase Rotation	DRX Discontinuous Reception
CPT Control PDU Type	DS-CDMA Direct-Sequence Code Division Multiple Access
CQI Channel Quality Indicator	DSP Digital Signal Processor
CRC Cyclic Redundancy Check	DTCH Dedicated Traffic CHannel
CRE Cell Range Expansion	DTX Discontinuous Transmission
C-RNTI Cell Radio Network Temporary Identifier	DVB-H Digital Video Broadcasting – Handheld
	DVB-T Digital Video Broadcasting – Terrestrial
	DwPTS Downlink Pilot TimeSlot
	ECGI E-UTRAN Cell Global Identifier

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