



Glossary of Wireless Acronyms

1x	Short for 1xRTT
1xCS	1x Circuit Switched
1xCSFB	1x Circuit Switched Fallback
1xEV-DO	CDMA20001xEV-DO or 1 times Evolution-Data Optimized or Evolution-Data Only
1xEV-DV	CDMA20001xEV-DV or 1 times Evolution-Data Voice
1xRTT	1 times Radio Transmission Technology (CDMA20001xRTT technology)
1xSRVCC	1x Single Radio Voice Call Continuity
2G	Second Generation
2G-CS/3G-CS	2G Circuit Switched/ 3G Circuit Switched
3G	Third Generation
3G+	3G plus, used to reference technologies considered beyond 3G such as HSPA, HSPA+ or LTE, not an officially recognized term by 3GPP
3GPP	3rd Generation Partnership Project
3GPP2	3rd Generation Partnership Project 2
4G	Fourth Generation
AA	Adaptive Array
AAA	Authentication, Authorization and Accounting
ACK/NAK	Acknowledgement/Negative Acknowledgement
ADSL	Asymmetric Digital Subscriber Line
AES	Advanced Encryption Standard
AKA	Authentication and Key Agreement
AM	Acknowledged Mode
AMBR	Aggregate Maximum Bit Rate
API	Application Programming Interfaces
APN	Access Point Name
ARP	Allocation and Retention Priority
ARPU	Average Revenue per User
ARQ	Automatic Repeat Request
AS	Access Stratum
ASIC	Application-Specific Integrated Circuit
ASME	Access Security Management Entity
ATCA	Advanced Telecommunication Computing Architecture
ATIS/TIA	Alliance for Telecommunications Industry Solutions/Telecommunications Industry Association
ATM	Automated Teller Machine
AuC	Authentication Center
AWS	Advanced Wireless Spectrum
b/s/Hz	Bits per Second per Hertz
B2C	Business-to-Consumer
BCH	Broadcast Channel
BF	Beamforming
BIP	Bearer Independent Protocol
BM-SC	Broadcast Multicast Service Center
Bps/Hz	Bits per second per Hertz
BPSK	Binary Phase Key Shifting
BSK	Binary Shift Keying
BSR	Base Station Router
BTS	Base Transceiver Station
BW	Bandwidth



C/I	Carrier to Interference Ratio (CIR)
CA	Carrier Aggregation
CAGR	Compound Annual Growth Rate
CAPEX	Capital Expenses
CAT_TP	Card Application Toolkit Transport Protocol
CAZAC	Constant Amplitude Zero Autocorrelation Waveform
CBC	Cell Broadcast Center
CBF	Coordinated Beamforming
CBS	Coordinated Beam Switching
CCE	Control Channel Elements
CCO	Cell Change Order
CDD	Cyclic Delay Diversity
CDF	Cumulative Distribution Function
CDM	Code Division Multiplexing
CDMA	Code Division Multiple Access
CDO	Care Delivery Organization
CE	Congestion Experienced
CELL_DCH	UTRAN RRC state where UE has dedicated resources
CELL_FACH	UTRAN RRC transition state between Cell_PCH and Cell_DCH
CELL_PCH	UTRAN RRC state where UE has no dedicated resources are allocated
CID	Cell Identification
CIF	Carrier Indication Field
CK/IK	Ciphering Key/Integrity Key
CL	Circular Letter
CL-MIMO	Closed-Loop Multiple-Input Multiple-Output
CMAS	Commercial Mobile Alert Service
CMS	Communication and Media Solutions
CMSAAC	FCC Commercial Mobile Service Alert Advisory Committee
CMSP	Commercial Mobile Service Provider
CN	Control Network
CoA	Care of Address
CoMP	Coordinated Multipoint Transmission
CP	Cyclic Prefix
CPC	Continuous Packet Connectivity
CPE	Customer premise Equipment
C-Plane	Control Plane
CQI	Channel Quality Indications
CRC	Cyclic Redundancy Check
CRS	Common Reference Signals
CS	Circuit Switched
CSCF	Call Session Control Function
CSFB	Circuit Switched Fallback
CSG	Closed Subscriber Group
CSI	Channel State Information
CSP	Communication Service Provider
CTIA	Cellular Telecommunication Industry Association
CTR	Click-Through Rate
DC	Direct Current
DCH	Dedicated Channel
DC-HSDPA	Dual Carrier- High Speed Downlink Packet Access
DC-HSPA	Dual Carrier- High Speed Packet Access
DC-HSUPA	Dual Carrier- High Speed Uplink Packet Access



DCI	Downlink Control Information
DES	Data Encryption Standard
DFE	Decision Feedback Equalizer
DFT	Discrete Fourier Transformation
DFT-S-OFDM	Discrete Fourier Transformation-Spread-Orthogonal Frequency Division Multiplexing
DHCP	Dynamic Host Configuration Protocol
D-ICIC	Dynamic Interference Coordination
DIP	Dominant Interferer Proportion
DL	Downlink
DLDC	Downlink Dual Carrier
DL-SCH	Downlink Shared Channel
DM	Dispersion Measure
DMB	Digital Multimedia Broadcasting
DNBS	Distributed NodeB Solution
DPCH	Dedicated Physical Channel
DRX	Discontinuous Reception
DS	Dual Stack
DS-MIPv6	Dual Stack-Mobile Internet Protocol version 6
DSP	Dual Slant Pole
DVB	Digital Video Broadcast
DVB-H	Digital Video Broadcast-Handheld
DwPTS	Downlink Pilot Time Slot
E-AGCH	Enhanced- Absolute Grant Channel
EATF	Emergency Access Transfer Function
E-CID	Enhanced Cell Identification
ECN	Explicit Congestion Notification
ECN-CE	Explicit Congestion Notification-Congestion Experienced
E-CSCF	Enhanced- Call Session Control Function
ECT	Explicit Congestion Notification-Capable Transport
E-DCH	Enhanced Dedicated Channel (also known as HSUPA)
EDGE	Enhanced Data for GSM Evolution
EEM/USB	Ethernet Emulation Model/Universal Serial Bus
EGPRS	Enhanced GPRS
E-HICH	E-DCH Hybrid ARQ Indicator Channel
EIR	Equipment Identity Register
E-MBMS	Enhanced Multi Broadcast Multicast Service
eNB	Enhanced NodeB
eNodeB	Evolved NodeB
ENUM	Telephone Number Mapping from E.164 Number Mapping
EPC	Evolved Packet Core; also known as SAE (refers to flatter-IP core network)
EPDG	Evolved Packet Data Gateway
EPRE	Energy per Resource Element
EPS	Evolved Packet System is the combination of the EPC/SAE (refers to flatter-IP core network) and the LTE/E-UTRAN
E-RGCH	E-DCH Relative Grant Channel
E-SMLC	Enhanced Serving Mobile Location Center
ETSI	European Telecommunication Standards Institute
ETWS	Earthquake and Tsunami Warning System
EUTRA	Evolved Universal Terrestrial Radio Access
E-UTRAN	Evolved Universal Terrestrial Radio Access Network (based on OFDMA)
EV-DO	Evolution Data Optimized or Data Only
FCC	Federal Communications Commission



FDD	Frequency Division Duplex
FDM	Frequency Division Multiplex
FDMA	Frequency Division Multiple Access
F-DPCH	Fractional-DPCH
FDS	Frequency Diverse Scheduling
FER	Frame Erasure Rate
FFR	Fractional Frequency Re-use
FIR	Finite Impulse Response
FMC	Fixed Mobile Convergence
FOMA	Freedom of Mobile Multimedia Access: brand name for the 3G services offered by Japanese mobile phone operator NTT DoCoMo
FSS	Frequency Selected Scheduling
FSTD	Frequency Selective Transmit Diversity
GB	Gigabyte also called gbit
gbit/s	Gigabytes per second
GBR	Guaranteed Bit Rate
GERAN	GSM EDGE Radio Access Network
GGSN	Gateway GPRS Support Node
GHz	Gigahertz
Gi	Interface between GPRS and external data network
GLONASS	Global Navigation Satellite System (Russian)
GMLC	Gateway Mobile Location Controller
Gn	IP-based interface between SGSN and other SGSNs and (internal) GGSNs. DNS also shares this interface. Uses the GTP Protocol
GNSS	Global Navigation Satellite System
Gp	Guard Period
GPRS	General Packet Radio System
GPS	Global Positioning System
GRE	Generic Routing Encapsulation
GSM	Global System for Mobile communications
GSMA	GSM Association
GTP	GPRS Tunneling Protocol
GTP-U	The part of GTP used for transfer of user data
GUTI	Globally Unique Temporary Identity
GW	Gateway
Gxa, Gxb, Gxc	IMS reference points
H2H	Human to Human
HARQ	Hybrid Automatic Repeat Request
HCI	Host Controller Interface
HD	High Definition
HeNB	Home eNodeB
HeNB-GW	Home eNodeB Gateway
HLR	Home Location Register
HNB	Home NodeB
HNB-GW	Home NodeB Gateway
HOM	Higher Order Modulation
HPCRF	Home PCRF
HPLMN	Home PLMN
HRPD	High Rate Packet Data (commonly known as 1xEV-DO)
HSDPA	High Speed Downlink Packet Access
HS-DPCCH	High Speed-Dedicated Physical Control Channel
HS-DSCH	High Speed-Downlink Shared Channel



HSPA	High Speed Packet Access (HSDPA + HSUPA)
HSPA+	High Speed Packet Access Plus (also known as HSPA Evolution or Evolved HSPA)
HSS	Home Subscriber Server
HS-SCCH	High Speed-Shared Control Channel
HSUPA	High Speed Uplink Packet Access
HTML	Hyper-Text Markup Language
HTTP	Hyper Text Transfer Protocol
HTTPS	Hypertext Transfer Protocol Secure
I/Q	In-phase Quadrature referring to the components used in quadrature amplitude modulation
ICE	In Case of Emergency
ICIC	Inter-Cell Interference Coordination
ICS	IMS Centralized Services
ID	Identification
IDFT	Inverse Discreet Fourier Transform
IEC	International Engineering Consortium
IEEE	Professional association for engineering, computing and technology
IETF RFC	Internet Engineering Task Force Request for Comments
IFFT	Inverse Fast Fourier Transformation
IFOM	Internet Protocol Flow Mobility and seamless WLAN Offload
I-HSPA	Internet-High Speed Packet Access
IM	Instant Messaging
IMS	IP Multimedia Subsystem
IMSI	International Mobile Subscriber Identity
IN	Intelligent Networking
ION	Intelligent Optical Network
IP	Internet Protocol
IP-CAN	Internet Protocol Connectivity Access Network
IPR	Intellectual Property Rights
IPSec	Internet Protocol Security
IRC	Interference Rejection Combining
ISO	International Standardization Organization
ISP	Internet Service Provider
ISUP	ISDN User Part
IT	Internet Technology
ITU	International Telecommunication Union
ITU-R	ITU-Radiotelecommunication Sector
ITU-T	ITU-Telecommunication Standardization Section
Iur	Interface between two RNCs
IUT	Inter-UE Transfer
IVR	Interactive Voice Response
IWS	Interworking Signaling
J2ME	Java 2 Platform, Micro Edition which is now called Java Platform for Mobile Devices and Embedded Modules
JDBC	Java Database Connectivity
JP	Joint Processing
JP-Co	Coherent Joint Processing
JP/JT	Joint Processing/Joint Transmission
JP-Nco	Non-Coherent Joint Processing
J-STD-101	Joint ATIS/TIA CMAS Federal Alert Gateway to CMSP Gateway Interface Specification
K_ASME	ASME Key



kbps	Kilobits per Second
kHz	Kilohertz
km/h	Kilometers per hour
LATRED	Latency Reduction
LBS	Location Based Services
LCD	Liquid Crystal Display
LCR	Low Chip-Rate
LCS	Location Service
LDAP	Lightweight Directory Access Protocol
Lh	Interface between the GMLC/LRF and the HLR/HSS
LI	Lawful Intercept
LIPA	Local Internet Protocol Access
LMMSE	Linear Minimum Mean Square Error
LMU	Location Measurement Units
Lpp	Interface between the GMLC/LRF and the PPR
LPP	LTE Positioning Protocol
LPPa	LTE Positioning Protocol A
Lr	Interface between the GMLC/LRF and LIMS-IWF
LRF	Laser Range Finder
LSTI	LTE/SAE Standard Trial Initiative
LTE	Long Term Evolution (Evolved Air Interface based on OFDMA)
LTE-A	LTE-Advanced
LTl	Linear Time Invariant
m	Meters
mb	Megabit or Mb
M2M	Machine-to-Machine
MAC	Media Access Control
MAG	Mobile Access Gateway
MBMS	Multimedia Broadcast/Multicast Service
Mbps	Megabits per Second
MBR	Maximum Bit Rate
MBSFN	Multicast Broadcast Single Frequency Networks
MCH	Multicast Channel
MCM	Multimedia Carrier Modulation
MCS	Modulation and Coding Scheme
MCW	Multiple Codewords
MFS	Mobile Financial Services
MHz	Megahertz
MI	Interface between the GMLC/LRF and the E-CSCF
MIB	Master Information Block
MID	Mobile Internet Device
MIM	Mobile Instant Messaging
MIMO	Multiple-Input Multiple-Output
MIP	Mobile IP
MITE	IMS Multimedia Telephony Communication Enabler
MLC	Mobile Location Center
MLSE	Maximum Likelihood Sequence Estimation
MMD	Multi-Media Domain
MME	Mobility Management Entity
MMS	Multimedia Messaging Service
MMSE	Multimedia Messaging Service Environment
MNO	Mobile Network Operator



MOBIKE	Mobility and Multi-homing Protocol for Internet Key Exchange
MO-LR	Mobile Originating-Location Request
MP3	MPEG-1 (Motion Picture Experts Group) Audio Layer-3 for compressing sound into very small audio files
MRFP	Multimedia Resource Function Processor
ms	Milliseconds
MSA	Metropolitan Statistical Area
MSC	Mobile Switching Center
MSISDN	Mobile Station International ISDN Number
MSRD	MS Receive Diversity
MTC	Machine-Type Communication
MT-LR	Mobile Terminated Location Request
MTSI	Multimedia Telephony Service for IMS
MU-MIMO	Multi-User Multiple-Input Multiple-Output
MVNO	Mobile Virtual Network Operator
NACC	Network Assisted Cell Change
NAI	Network Access Identifier
NAS	Non Access Stratum
NDS	Network Domain Security
NFC	Near Field Communications
NGMN	Next Generation Mobile Networks Alliance
NGN	Next Generation Network
NGOSS	Next Generation Operations Support Systems (HP)
NI-LR	Network Induced Location Request
NIMTC	Network Improvements for Machine-Type Communication
NMR	Network Measure Report
NxDFT-S-OFDM	N times Discrete Fourier Transforms Spread Orthogonal Frequency Division Multiplexing
O&M	Operations and Maintenance
OECD	Organization for Economic Cooperation and Development
OFDM	Orthogonal Frequency Division Multiplexing
OFDMA	Orthogonal Frequency Division Multiplexing Access (air interface)
OL-MIMO	Open Loop Multiple-Input Multiple-Output
OMA	Open Mobile Architecture
OMA-DS	OMA Data Synchronization
OP	Organizational Partner
OPEX	Operating Expenses
OS	Operating System
OTA	Over the Air
OTDOA	Observed Time Difference of Arrival
PAPR	Peak to Average Power Ratio
PAR	Peak to Average Ratio
PARC	Per-Antenna Rate Control
PBCH	Primary BCH
PC	Physical Channel
PCC	Policy and Charging Convergence
PCD	Personal Content Delivery
PCEF	Policy and Charging Enforcement Function
PCFICH	Physical Control Format Indicator Channel
PCH	Paging Channel
PCMM	Packaged Core Memory Model
PCO	Power Control Optimization OR Point of Control and Observation (ITU-T)



PCRF	Policy and Changing Rules Function
P-CSCF	Proxy Call Session Control Function
PDA	Personal Desktop Assistant
PDCCH	Physical Downlink Control Channel
PDCP	Packet Data Convergence Protocol
PDG	Packet Data Gateway
PDN	Public Data Network
PDSCH	Physical Downlink Shared Channel
PDU	Packet Data Unit
P-GW	PDN Gateway
PHICH	Physical Hybrid ARQ Indicator Channel
PHY/MAC	Physical layer/Medium Access Control
PLMN	Public Land Mobile Network
PMCH	Physical Multicast Channel
PMI	Precoding Matrix Index
PMIP	Proxy Mobile IPv6
PND	Personal Navigation Device
PoC	Push-to-Talk over Cellular
PPR	Push-Profile-Request
PRACH	Physical Random Access Channel
PRB	Physical Resource Block
PS	Packet Switched
PSAP	Public Safety Answering Point
P-SCH	Primary Synchronization Signal
PSRC	Per Stream Rate Control
PUCCH	Physical Uplink Control Channel
PUSCH	Physical Uplink Shared Channel
PWS	Public Warning System
QAM	Quadrature Amplitude Modulation
QCI	QoS Class Index
QoS	Quality of Service
QPP	Quadratic Polynomial Permutation
QPSK	Quadrature Phase Shift Keying
Qt	"Cutie" is a cross application development framework
QWERTY	Of, relating to, or designating the traditional configuration of typewriter or computer keyboard keys. Q, W, E, R, T and Y are the letters on the top left, alphabetic row.
QZSS	Quasi Zenith Satellite System
R&D	Research and Development
RAB	Radio Access Bearer
RACH	Random Access Channel
RADIUS AAA	Remote Authentication Dial In User Service for Authentication, Authorization, and Accounting management for computers to connect and use a network service
RAM	Remote Application Management
RAN	Radio Access Network
RAN1	Working group within 3GPP focused on physical layer specifications
RAT	Radio Access Technology
RB	Radio Bearer or Resource Blocks
REG	Resource Element Group
Rel-X	Release '99, Release 4, Release 5, etc. from 3GPP standardization
RF	Radio Frequency
RIT	Radio Interface Technology
RLC	Radio Link Control Layer



RN	Relay Node
RNC	Radio Network Controller
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RRH	Remote Radar Head
RRM	Radio Resource Management
RRU	Remote Radio Unit
RS	Reference Signal
RTCP	RTP Control Protocol
RTP/UDP	Real-Time Transport Protocol/User Datagram Protocol
S1AP	S1 Application Protocol
SAE	System Architecture Evolution also known as Evolved Packet System (EPS) Architecture (refers to flatter-IP core network)
SAE GW	Service Architecture Evolution Gateway
SBAS	Space Based Augmentation System
SBLB	Service Based Local Policy
SC	Service Continuity
SC-FDMA	Synchronization Channel-Frequency Division Multiple Access
SCH	Synchronization Channel
S-CSCF	Serving-Call Session Control Function
SCW	Single Codeword
SDK	Software Development Kit
SDMA	Space Division Multiple Access
SDO	Standard Development Organization
SDP	Service Delivery Platform
SDR	Software Defined Radio
SDU	Service Data Unit
SeGW	Security Gateway
SFBA	Switch Fixed Beam Array
SFBC	Space Frequency Block Code
SFN	Single Frequency Network
SG	Serving Gateway
SGi	Reference point between the PDN-GW and the packet data network
SGSN	Serving GPRS Support Node
S-GW	Serving Gateway
SIC	Successive Interference Cancellation
S-ICIC	Static Interference Coordination
SIM	Subscriber Identity Module
SIMO	Single-Input Multiple-Output
SINR	Signal-to-Interference plus Noise Ratio
SIP	Session Initiated Protocol
SIPTO	Selected Internet Protocol Traffic Offload
SIP-URI	Session Initiated Protocol -Uniform Resource Identifier
SIR	Signal-to-Interference Ratio
SISO	Single-Input Single-Output
SLg	Interface between the MME and the GMLC
SLs	Interface between the MME and the E-SMLC
SM	Spatial Multiplexing
SMS	Short Message Service
SNAP	Subscriber, Network, Application, Policy
SNS	Social Networking Site
SOA	Service-Oriented Architecture



SON	Self-Optimizing or Self-Organizing Network
SPS	Semi-Persistent Scheduling
SR/CQI/ACK	Scheduling Request/Channel Quality Indicators/Acknowledgement
SRIT	Set of Radio Interface Technologies
SRS	Sounding Reference Signal
Srv	Server
SRVCC	Single Radio Voice Call Continuity
S-SCH	Secondary Synchronization Code
STBC	Space-Time Block Code
SU-MIMO	Single-User Multiple-Input Multiple-Output
SU-UL-MIMO	Single-User Uplink Multiple-Input Multiple-Output
SYNC	Short for Synchronization
TA	Timing Advance
TAS	Transmit Antenna Switching
TAU	Target Acquisition and tracking Unit
TB	Transport Blocks
TCP	Transmission Control Protocol
TDD	Time Division Duplex
TD-LTE	Time Division-Long Term Evolution or LTE TDD
TDM	Time Division Multiplexing
TDS	Time Domain Scheduling
TD-SCDMA	Time Division-Spatial Code Division Multiple Access
TE-ID	Tunnel Endpoint Identifier
TF	Transport Format
TISPAN	Telecoms & Internet converged Services & Protocols for Advanced Networks, a standardization body of ETSI
TM	Transparent Mode
TP	Transport Protocol
TPC	Transmit Power Control
TRX	Transceiver
TS	Technical Specification
TSG-RAN	TSG Radio Access Network is a specification group at 3GPP
TSM	Transport Synchronous Module
TSN	Transmission Sequence Numbering
TTI	Transmission Time Interval
Tx or TX	Transmit
TxD or TXD	Transmit Diversity
UDC	Utility Data Center
UE	User Equipment
UGC	User Generated Content
UICC	User Interface Control Channel
UL	Uplink
UL-SCH	Uplink Shared Channel
UM	Unacknowledged Mode
UMA	Unlicensed Mobile Access
UMB	Ultra Mobile Broadband
UMD	Ultra Mobile Device
UMTS	Universal Mobile Telecommunication System, also known as WCDMA
UpPTS	Uplink Pilot Time Slot
URA_PCH	UTRAN Registration Area_Paging Channel
USB	Universal Serial Bus
USB-IC	Universal Serial Bus-Integrated Circuit



USIM	UMTS SIM
USSD	Unstructured Supplementary Service Data
UTC	Universal Time Coordinated
UTRA	Universal Terrestrial Radio Access
UTRAN	UMTS Terrestrial Radio Access Network
VAS	Value-Added Service
VCC	Voice Call Continuity
VLR	Visitor Location Register
VNI	Visual Networking Index
VoIP	Voice over Internet Protocol
VPCRF	Visiting PCRF
VPLMN	Visiting PLMN
VPN	Virtual Private Network
WAP	Wireless Application Protocol
WBC	Wireless Broadband Core
WCDMA	Wideband Code Division Multiple Access
WI	Work Item
Wi-Fi	Wireless Internet or IEEE 802.11 standards
WIM	Wireless Internet Module
WiMAX	Worldwide Interoperability for Microwave Access based on IEEE 802.16 standard
WLAN	Wireless Local Area Network
WP	Working Party
WRC	World Radio Conference
WTSC-G3GSN	Wireless Technologies & Systems Committee-GSM/3G System and Network Subcommittee at ATIS
X2	Interface between eNBs
xDSL	Digital Subscriber Line
xHTML	Extensible Hypertext Markup Language
xSON	Extended Self-Optimizing/Self-Organizing Network