

LTE BASIC PARAMETERS

http://www.tutorialspoint.com/lte/lte_basic_parameters.htm

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This section will summarize the Basic parameters of the LTE:

Parameters	Description
Frequency range	UMTS FDD bands and TDD bands defined in 36.101v860 Table 5.5.1, given below
Duplexing	FDD, TDD, half-duplex FDD
Channel coding	Turbo code
Mobility	350 km/h
Channel Bandwidth <i>MHz</i>	• 1.4 • 3 • 5 • 10 • 15 • 20
Transmission Bandwidth Configuration NRB : <i>1resourceblock = 180kHzin1msTTI</i>	• 6 • 15 • 25 • 50 • 75 • 100
Modulation Schemes	UL: QPSK, 16QAM, 64QAM <i>optional</i> DL: QPSK, 16QAM, 64QAM
Multiple Access Schemes	UL: SC-FDMA <i>SingleCarrierFrequencyDivisionMultipleAccess</i> supports 50Mbps+ 20MHz <i>spectrum</i> DL: OFDM <i>OrthogonalFrequencyDivisionMultipleAccess</i> supports 100Mbps+ 20MHz <i>spectrum</i>
Multi-Antenna Technology	UL: Multi-user collaborative MIMO DL: TxAA, spatial multiplexing, CDD ,max 4x4 array
Peak data rate in LTE	UL: 75Mbps20MHz <i>bandwidth</i> DL: 150Mbps <i>UECategory4, 2x2MIMO, 20MHzbandwidth</i>

DL: 300MbpsUEcategory5, 4x4MIMO, 20MHzbandwidth

MIMO

UL: 1 x 2, 1 x 4

MultipleInputMultipleOutput

DL: 2 x 2, 4 x 2, 4 x 4

Coverage

5 - 100km with slight degradation after 30km

QoS

E2E QoS allowing prioritization of different class of service

Latency

End-user latency < 10mS

E-UTRA Operating Bands

Following is the table for E-UTRA operating bands taken from LTE Sepecification 36.101v860 Table 5.5.1:

E-UTRA Operating Band	Uplink (UL) operating band BS receive UE transmit		Downlink (DL) operating band BS transmit UE receive		Duplex Mode
	F _{UL, low}	F _{UL, high}	F _{DL, low}	F _{DL, high}	
1	1920 MHz	1980 MHz	2110 MHz	2170 MHz	FDD
2	1850 MHz	1910 MHz	1930 MHz	1990 MHz	FDD
3	1710 MHz	1785 MHz	1805 MHz	1880 MHz	FDD
4	1710 MHz	1755 MHz	2110 MHz	2155 MHz	FDD
5	824 MHz	849 MHz	869 MHz	894MHz	FDD
6	830 MHz	840 MHz	875 MHz	885 MHz	FDD
7	2500 MHz	2570 MHz	2620 MHz	2690 MHz	FDD
8	880 MHz	915 MHz	925 MHz	960 MHz	FDD
9	1749.9 MHz	1784.9 MHz	1844.9 MHz	1879.9 MHz	FDD
10	1710 MHz	1770 MHz	2110 MHz	2170 MHz	FDD
11	1427.9 MHz	1447.9 MHz	1475.9 MHz	1495.9 MHz	FDD
12	698 MHz	716 MHz	728 MHz	746 MHz	FDD
13	777 MHz	787 MHz	746 MHz	756 MHz	FDD
14	788 MHz	798 MHz	758 MHz	768 MHz	FDD
17	704 MHz	716 MHz	734 MHz	746 MHz	FDD

33	1900 MHz	1920 MHz	1900 MHz	1920 MHz	TDD
34	2010 MHz	2025 MHz	2010 MHz	2025 MHz	TDD
35	1850 MHz	1910 MHz	1850 MHz	1910 MHz	TDD
36	1930 MHz	1990 MHz	1930 MHz	1990 MHz	TDD
37	1910 MHz	1930 MHz	1910 MHz	1930 MHz	TDD
38	2570 MHz	2620 MHz	2570 MHz	2620 MHz	TDD
39	1880 MHz	1920 MHz	1880 MHz	1920 MHz	TDD
40	2300 MHz	2400 MHz	2300 MHz	2400 MHz	TDD

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