

[] LTE

2008 2 Mobile World Congress 2008 LTE(Long Term Evolution) 가 . 4G 가 LTE GSM, WCDMA 3GPP 3GPP LTE

LTE

2004 12 RAN Evolution Workshop LTE 3GPP Rel-8 OFDM(Orthogonal Frequency Division Multiple Access) MIMO(Multiple Input multiple output :) Downlink 326.4 Mbps, Uplink 86.4 Mbps . LTE

< 1> LTE

Speed	Downlink Peak data rate (64QAM)	100 Mbps (SISO) 172.8 Mbps (2x2 MIMO) 326.4 Mbps (4x4 MIMO)
	Uplink Peak data rate	50 Mbps (QPSK) 57.6 Mbps (16QAM) 86.4 Mbps (64QAM)
Mobility	High performance	15 ~ 120 km/h
	Functional	120 ~ 350 km/h
	Under consideration	350 ~ 500 km/h
Multiple Access	Downlink	OFDMA
	Uplink	SC-FDMA

< : <http://cp.literature.agilent.com/litweb/pdf/5989-7898EN.pdf>>

3GPP LTE

3GPP GSM, WCDMA, LTE WG(Working Group) WG , LTE 3GPP RAN WG5 (3GPP 3GPP (www.3gpp.org)). 3GPP LTE 36 (Evolved UTRA aspects) . LTE LTE (Conformance Test) RAN WG5 , .

< 2> LTE

	Type	Description
36.508	Common Test Environment	Evolved Universal Terrestrial Radio Access(E-UTRA) and Evolved Universal Terrestrial Radio Access Network(E-UTRAN); Common test environments for User Equipment(UE) conformance testing
36.521 - 1	RF RRM Conformance	Evolved Universal Terrestrial Radio Access(E-UTRA) and Evolved Universal Terrestrial Radio Access Network(E-UTRAN); User Equipment(UE) conformance specification Radio transmission and reception Part 1: conformance testing
36.521 - 2		Evolved Universal Terrestrial Radio Access(E-UTRA) and Evolved Universal Terrestrial Radio Access Network(E-UTRAN); User Equipment(UE) conformance specification Radio transmission and reception Part 2: ICS
36.523 - 1	Protocol Conformance	Evolved Universal Terrestrial Radio Access(E-UTRA) and Evolved Universal Terrestrial Radio Access Network(E-UTRAN); User Equipment(UE) conformance specification; Part 1: Protocol conformance specification
36.523 - 2		Evolved Universal Terrestrial Radio Access(E-UTRA) and Evolved Universal Terrestrial Radio Access Network(E-UTRAN); User Equipment(UE) conformance specification; Part 2: ICS
36.523 - 3		Evolved Universal Terrestrial Radio Access(E-UTRA) and Evolved Universal Terrestrial Radio Access Network(E-UTRAN); User Equipment(UE) conformance specification; Part 3: Abstract Test Suites(ATS)

< : www.3gpp.org>

(skeleton)

< 3> LTE

36.521 - 1 : RF, RRM		36.523 - 1 : Protocol	
Clause	Description	Clause	Description
4	General section	6	Idle Mode Operations
5	Frequency band and channel assignments	7	Layer 2
6	Transmitter Characteristics	8	Radio Resource Control RRC
7	Receive Characteristics	9	EPS Mobility Management procedure
8	Performance Requirements, Requirement for	10	Session Management

	RRM		
		11	General Tests
		12	Interoperability Radio Bearer Tests
		13	MBMS
		14	Non-3GPP

< : www.3gpp.org>

LTE (skeleton) WCDMA (TS 34.108, TS 34.121-1, TS 34.123-1) (structure)
RF, RRM TTCN-3
Protocol TTCN-3
RAN WG5 가
Parameter (test case)
가
RAN WG5
GCF(Global Certification Forum) PTCRB(PCS Type Certification Review Board)

LTE
RAN WG5 WCDMA, HSDPA , HSUPA, HSPA+, LTE
RAN WG5
RAN WG5
Rel-8 LTE Rel-6 MBMS, HSUPA Rel-7
HSPA+ 2008 1 RAN WG5 38 LTE
4 Ad hoc (RAN5
bis) 가 3 RAN5bis LTE
LTE 가 가 ,
RAN WG5 2008 4 RAN WG5 41 LTE
LTE RF, RRM Protocol 10%
2008
LTE LTE GERAN
LTE GERAN 3GPP GERAN WG3
, 3GPP RAN WG5 UMTS LTE
GERAN-LTE GERAN WG3 1
LTE RAN WG5
GCF PTCRB LTE WI(Work Item) RFT(Request for new test

case)가 , RAN WG5 GCF , PTCRB WI/RFT
(rapporteur)가 GCF, PTCRB LTE .

LTE .
4G 가 LTE
3GPP RAN WG5 , 2008 LTE
AT&T, Ericsson, Nokia, NEC, NTT
DoCoMo, R&S, Anritsu LTE
, LTE

(TTA GSM , hcmoon@tta.or.kr)