

Agenda Item: 2.2

Source: ETSI MCC

Title: Report of 3GPP TSG RAN WG2 meeting #95bis,
Kaohsiung, 10th – 14th October 2016

Document for: Approval

Report of 3GPP TSG RAN WG2 meeting #95bis

held in Kaohsiung
October 10 - 14, 2016



3GPP

Postal address

3GPP support office address
650 Route des Lucioles - Sophia Antipolis
Valbonne - FRANCE
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Internet
<http://www.3gpp.org>

© 2016, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).
All rights reserved.

Contents

Organisation of the meeting	10
Statistics/Executive Summary	10
1 Opening of the meeting (9 AM).....	11
1 Opening of the meeting (9 AM).....	11
1.1 Call for IPR.....	11
1.2 Network usage conditions.....	11
1.3 Other	12
2 General	12
2.1 Approval of the agenda.....	12
2.2 Approval of the report of the previous meeting	14
2.3 Reporting from other meetings	14
2.4 Others.....	15
3 Incoming liaisons	15
3.1 Joint UMTS/LTE relevance.....	15
3.2 LTE relevance.....	16
3.3 UMTS relevance	17
4 Joint UMTS/LTE: Rel-13 and earlier releases	17
4.1 Joint UMTS/LTE: Rel-12 and earlier releases.....	17
4.2 Joint UMTS/LTE: Rel-13 WIs.....	18
5 Joint UMTS/LTE: Rel-14.....	18
5.1 Other Joint UMTS/LTE Rel-14 WIs.....	18
5.2 Joint UMTS/LTE TEI14 enhancements	19
6 LTE: Rel-12 and earlier releases	19
7 LTE: Rel-13	22
7.1 WI: Licensed-Assisted Access using LTE.....	22
7.2 WI: CA enhancements	22
7.3 WI: Single-Cell point-to-multipoint transmission	23
7.4 WI: Further LTE Physical Layer Enhancements for MTC	23
7.4.1 Control Plane.....	24
7.4.2 User Plane	25
7.5 WI: ProSe enhancements	25
7.6 WI: LTE-WLAN Radio Level Integration.....	25
7.6.1 LTE+WLAN Aggregation	25
7.6.2 Interworking Enhancements.....	27
7.7 WI: Multicarrier Load Distribution in LTE	27
7.8 WI: Dual Connectivity Enhancements.....	27
7.9 WI: RAN enhancements for extended DRX in LTE.....	28
7.10 WI: Elevation Beamforming/Full-Dimension (FD) MIMO for LTE.....	28
7.11 WI: Further Enhancements of Minimization of Drive Tests for E-UTRAN.....	29
7.12 WI: Indoor Positioning Enhancements for UTRA and LTE	29
7.13 WI: LTE-WLAN RAN Level Integration supporting legacy WLAN	29
7.14 WI: Narrowband IOT.....	29
7.14.1 Control Plane.....	29
7.14.2 User Plane	30
7.15 Other LTE Rel-13 WIs	30
7.16 LTE TEI13 enhancements	31
7.16.1 CIoT optimisations.....	31
7.16.2 Other.....	32

8	LTE Rel-14.....	33
8.1	WI: Enhanced LAA for LTE	33
8.1.1	Stage 2.....	34
8.1.2	User plane	34
8.1.3	Control plane.....	37
8.2	WI: Support for V2V services based on LTE sidelink.....	38
8.2.1	Stage 2.....	38
8.2.2	User plane	38
8.2.3	Control plane.....	38
8.3	Void	39
8.4	SI: Further Enhancements to LTE Device to Device, UE to Network Relays for IoT and Wearables	39
8.4.1	Organisational	39
8.4.2	UE-to-Network Relay enhancements	39
8.4.2.1	Common relay architecture aspects	39
8.4.2.2	Non-3GPP related aspects	40
8.4.2.3	Other	40
8.4.3	LTE sidelink enhancements	41
8.4.3.1	Evaluation assumptions	41
8.4.3.2	Other	41
8.5	WI: Enhanced LTE-WLAN Aggregation (LWA)	41
8.5.1	Organisational	41
8.5.2	Uplink over WLAN.....	42
8.5.3	Mobility enhancements	43
8.5.4	Support of 802.11ax, 802.11ad, and 802.11ay	45
8.5.4.1	Control plane enhancements.....	45
8.5.4.2	User plane enhancements	45
8.5.5	Feedback enhancements	46
8.5.6	ANR for LWA.....	48
8.5.7	Other.....	48
8.6	WI: Further mobility enhancements in LTE	48
8.6.1	Organisational	48
8.6.2	RACH-less handover	49
8.6.3	Make before break handover.....	49
8.6.4	Other.....	49
8.7	WI: Further Indoor Positioning enhancements for UTRA and LTE.....	49
8.7.1	OTDOA and CID/E-CID enhancements	50
8.7.2	Enhancements for WLAN, Bluetooth, Barometric, and MBS	51
8.7.3	TBS positioning based on PRS	51
8.7.4	Other.....	52
8.8	WI: L2 latency reduction techniques for LTE	52
8.9	WI: Signalling reduction to enable light connection for LTE.....	53
8.9.1	Organisational	53
8.9.2	Signalling reduction	53
8.9.3	Context storage/retrieval across eNBs	54
8.9.4	Paging enhancements	54
8.9.5	Other.....	54
8.10	WI: eMBMS enhancements for LTE.....	54
8.10.1	MBSFN subframe enhancements.....	55
8.10.2	MBSFN dedicated carrier.....	55
8.10.3	Multicarrier MBMS operation	55
8.10.4	MBMS reception without authentication	55
8.10.5	Other.....	55
8.11	WI: Enhancements of NB-IoT	55
8.11.1	Multicast.....	55
8.11.2	Non-anchor PRB enhancements.....	56
8.11.3	Mobility enhancements	57
8.11.4	Other.....	57
8.12	WI: Further Enhanced MTC for LTE	58
8.12.1	Multicast.....	58
8.12.2	Higher data rates	58
8.12.3	Other.....	58
8.13	WI: LTE-based V2X Services	58

8.13.1	SC-PTM/MBMSFN enhancements.....	59
8.13.2	SPS enhancements	59
8.13.3	V2P services.....	59
8.13.4	Other.....	60
8.14	WI: SRS switching between LTE component carriers.....	61
8.15	WI: Measurement Gap Enhancement for LTE	62
8.16	SI: Study on Context Aware Service Delivery in RAN for LTE	64
8.17	WI: Performance enhancements for high speed scenario in LTE	64
8.18	WI: Voice and Video enhancement for LTE	65
8.18.1	Codec mode/rate selection and adaptation	66
8.18.2	VoLTE/ViLTE signalling optimization	66
8.18.3.	VoLTE quality/coverage enhancements.....	66
8.19	WI: Requirements for a new UE category with single receiver based on Category 1 for LTE	66
8.20	WI: Uplink Capacity Enhancements for LTE.....	67
8.21	Other LTE Rel-14 WIs	68
8.22	LTE TEI14 enhancements	69
9	SI: Study on New Radio Access Technology	72
9.1	Organisational.....	72
9.2	Radio protocol architecture.....	72
9.2.1	User plane	72
9.2.1.1	Overall user plane architecture	72
9.2.1.2	QoS	79
9.2.1.3	Other user plane aspects	80
9.2.2	Control plane.....	82
9.2.2.1	States	82
9.2.2.2	System information	84
9.2.2.3	LTE-NR tight interworking specific aspects	88
9.2.2.4	Other	90
9.2.3	Other architectural aspects	91
9.3	Mobility	92
9.3.1	Intra NR RAT.....	92
9.3.1.1	Mobility with RRC involvement	92
9.3.1.2	Mobility without RRC involvement	94
9.3.1.3	UE controlled mobility	95
9.3.1.4	Other	96
9.3.2	Inter-RAT.....	97
9.4	Other	97
10	UTRA Release 11 and earlier releases	98
11	UTRA Release 12	98
12	UTRA Release 13	99
12.1	WI: L2/L3 Downlink enhancements for UMTS	99
12.2	WI: Power saving enhancements for UMTS	99
12.3	WI: Support of EVS over UTRAN CS	100
12.4	WI: Network-Assisted Interference Cancellation and Suppression for UMTS	100
12.5	WI: Multiflow Enhancements for UTRA	100
12.6	WI: HSPA Dual-Band UL carrier aggregation	100
12.7	WI: Application specific Congestion control.....	100
12.8	WI: Indoor Positioning enhancements for UTRA and LTE	100
12.9	WI: Downlink TPC enhancements for UMTS.....	100
12.10	WI: Dual Carrier HSUPA Enhancements for UTRAN CS.....	101
12.11	UTRA TEI13 enhancements.....	101
13	UTRA Rel-14	101
13.1	WI: RRC optimization for UMTS	101
13.1.1	Filtered UPH measurements;	101
13.1.2	Simultaneous RAB setup and release.....	101
13.1.3	Others.....	101
13.2	WI: DTX/DRX enhancements in CELL_FACH	101
13.3	WI: Multi-Carrier Enhancements for UMTS.....	104
13.4	WI: Further Indoor Positioning Enhancements for UTRA and LTE	108

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.