

Agenda Item: 8.14
Source: Qualcomm, Telecom Italia, Telefonica, TeliaSonera, T-Mobile
Title: New Work Item Description UMTS 2.6 GHz DL External
Document for: Approval

Work Item Description

UMTS 2.6 GHz DL External

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

None

3 Justification

Work within CEPT/PT1 regarding the harmonised utilisation of spectrum for IMT-2000/UMTS systems operating within the band 2500 - 2690 MHz has resulted in ECC Decision 05(05) of March 2005.

The harmonised spectrum scheme for IMT-2000/UMTS in the band 2500 - 2690 MHz as considered by CEPT/PT1 in ECC Decision 05(05) is as follows:

- The frequency band 2500 – 2570 MHz is paired with 2620 – 2690 MHz for FDD operation with the mobile transmit within the lower band and base transmit within the upper band.
- Administrations may assign the frequency band 2570 – 2620 MHz either for TDD or for FDD downlink (external). Any guard bands required to ensure adjacent band compatibility at 2570 MHz and 2620 MHz boundaries will be decided on a national basis and taken within the band 2570 – 2620 MHz.
- Assigned blocks shall be in multiple of 5.0 MHz.

Based on the draft version of the ECC decision from September 2004, TSG RAN has commenced work on specification for UMTS operating within the band 2500 – 2690 MHz, namely for UTRA FDD operating in the frequency band 2500 – 2570 MHz paired with 2620 – 2690 MHz and for UTRA TDD operating in the frequency band 2570 – 2620 MHz. At that time, it was emphasised that additional work and updates to the specifications need to be carried out at a later stage in order to support FDD DL operation in 2570 – 2620 MHz.

For FDD operation in 2570 – 2620 MHz as a downlink paired with an external uplink, all information related to the downlink operation is available. Regarding the uplink, ECC PT1 has started work on updating the ERC Decision (99)25 “on the harmonised utilisation of spectrum for terrestrial Universal Mobile Telecommunications System (UMTS) operating within the bands 1900 - 1980 MHz, 2010 – 2025 MHz and 2110 – 2170 MHz”. In the context of this update, it is considered to use the band 2010 – 2025 MHz also for FDD, e.g. to pair this with parts of the band 2570 – 2620 MHz. It has also been proposed to PT1 to consider the 1900-1920 MHz band for a potential designation to FDD besides TDD. This means that one possibility would be to pair also an FDD uplink in 1900-1920 MHz with the band 2570 –2620 MHz.

Based on these developments, TSG RAN should be able to start work on the FDD specifications with 2570-2620 MHz as downlink and the potential uplink bands 2010 – 2025 MHz and/or 1900 – 1920 MHz. 3GPP RAN4 should provide feedback to PT1 during the work item, thereby helping PT1 in its band designation work.

4 Objective

The purpose of this work item, which is for ITU Region 1, is to generate necessary information of 2.6 GHz FDD system detailed below:

- Generate a report summarizing a study of radio requirements UTRA FDD in the 2.6 GHz Band
 - 2010 – 2025 MHz and 1900 – 1920 MHz: Up-link options (UE transmit, Node B receive)
 - 2570 – 2620 MHz: Down-link (Node B transmit, UE receive)
- The co-existence with IMT2000 technology within 2500 – 2690 MHz and with other IMT2000 bands shall be considered.
- Generate CR’s to update the appropriate documents.
- TSG RAN WG2 - study any issues related to UMTS at 2.6 GHz FDD DL external band-signalling aspects.
- TSG RAN WG3 - study any possible interface impacts to UMTS networks.
- Any additional related issues.

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects:	UICC apps	ME	AN	CN	Others
Yes		X	X		
No	X			X	X
Don't know					

Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.101		UE Radio transmission and reception (FDD)		RAN#31 (Mar 2006)		
25.104		UTRA (BS) FDD; Radio transmission and reception		RAN#31 (Mar 2006)		
25.113		Base Station Electromagnetic compatibility		RAN#31 (Mar 2006)		
25.133		Requirements for Support of Radio Resource Management (FDD)		RAN#31 (Mar 2006)		
25.141		Base station conformance testing (FDD)		RAN#31 (Mar 2006)		
25.331		RRC Protocol		RAN#31 (Mar 2006)		
25.942		RF System Scenarios		RAN#31 (Mar 2006)		
25.306		Radio UE capability		RAN#31 (Mar 2006)		
25.307		Requirements on UEs supporting a Release Independent Frequency Band		RAN#31 (Mar 2006)		
34.121		Terminal Conformance Specification, Radio Transmission and Reception		RAN#31 (Mar 2006)		

11 Work item rapporteur(s)

Han van Bussel, T-Mobile Intl.

12 Work item leadership

RAN WG 4

13 Supporting Companies

Qualcomm, Telecom Italia, Telefonica, TeliaSonera, T-Mobile

14 Classification of the WI (if known)

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14b The WI is a Building Block: parent Feature

This WI is a building block part of the radio interface improvement feature.