Source: Ericsson, Nokia, Siemens

Comparison of ETSI and ARIB Documentation:

YY.02 Layer 1 General requirements

1.   INTRODUCTION

This document compares the ETSI document "YY.02 Layer 1; General Requirements" UMTS (YY.02 with corresponding information found in the ARIB documentation. Please note that there is no ARIB document that is directly corresponding to YY.02. Corresponding contents have been found in:

- ARIB Layer 1 Specifications (Volume 3) Volume 3, Specifications of Air-Interface for 3G Mobile System, Version 1.0, January 14 1999, ARIB

- ARIB MAC Specification MAC Sublayer Specification for 3G Mobile system, Version 1.0, January 11, 1999, SWG2/ST7

These documents have been used in this comparison.

2.   COMPARISON

ETSI	ARIB	Remarks	Ref. Chapters
6. Interfaces to the physical layer			ETSI: YY.02, Ch. 6
Overview of interfaces to MAC and RRC (PH – and MPH primitives)	Does not comprise the same overall information. However, two types of primitives from Layer 1 exist, PHY and RPHY.	PH = PHY and MPH = RPHY	ETSI: YY.02, Ch. 6
7. Services and functions of the physical layer			
Overview Layer 1 functions		Same except for (ARIB only): Rate matching (data multiplexed on DCH)	ETSI: YY.02, Ch. 7.1 ARIB: Layer 1 spec. Volume 3,
L1 interactions with L2 retransmission functionality		Explicitly described in ETSI only	ETSI:YY.02 Ch. 7.4
8. Model of physical layer of the UE		In ETSI only	ETSI: YY.02 Ch. 8
9. Formats and configurations for L1 data transfer			

9.1 General concepts about transport channels		Text almost identical except for the following:	ETSI: YY.02 Ch. 9.1 ARIB: MAC Spec. MAC Ch5.
• 9.1.3 Definition of Transport Block Set Size based on the number of bits	Definition of Transport Block Set Size based on the number of transport blocks	Slight difference in definition	
• 9.1.5 Transport Format contains the dynamic attribute Transmission Time Interval (TDD only)		Difference for TDD only	
• 9.1.10 TFCI Two procedures for reconfiguration are listed	TFCI	Same definition of TFCI. Types of reconfiguration procedures listed in ETSI only	
9.2 Types of Transport Channels			ETSI: YY.02 UMTS (YY.02, Ch. 9.2 ARIB: Layer 1 spec. Volume 3, , ch. 3.2.1.2
• RACH	• RACH	Attribute: • Limited data field In ARIB only	
• ORACH		ETSI only. ODMA	
• FACH	• FACH	Attribute: • Possibility to change rate fast in ETSI only	
• BCH	• BCH	Same	
• PCH	• PCH	Same except for minor terminology difference: downlink / forward link	
• SCH		ETSI only	
• DSCH		ETSI only	
• DSCH Control Channels		ETSI only	
• DCH	• DCH		
• FAUSH		ETSI only	
• ODCH		ETSI only. ODMA	
9.3 Slotted Mode		ETSI only	
10. Primitives of the physical layer			
10.1 Generic names of primitives between layers			ETSI: YY.02, Ch. 10 ARIB: Layer 1 spec

1 and 2			Volume 3, , ch. 2.2
• PH-CONNECT		ETSI only (RPHY primitive in ARIB)	
• PH-DISCONNECT		ETSI only (RPHY primitive in ARIB)	
• PH-DATA	• PHY-DATA	Different parameters	
• PH-STATUS	• PHY-STATUS	FFS	
	• PHY-ERROR	ARIB only	
10.2 Generic names of primitives between layers 1 and 3			
Status primitives:			
• MPH-Sync	• RPHY-STATUS	Three different ETSI primitives covered by one ARIB primitive	
• MPH-Out-of-Sync			
• MPH-Measurement			
MPH-ERROR	RPHY-ERROR	Same, but different names	
Control primitives:			
• MPH-Setup	• PHY-DCH-CONNECT • PHY-RL-CONNECT	Two different ARIB primitives covered by one ETSI primitive	
• MPH-release	• PHY-DCH-DISCONNECT • PHY-RL-DISCONNECT	Two different ARIB primitives covered by one ETSI primitive	
• MPH-Modify		Only in ETSI	
10.3 Parameter definition		Only in ETSI	
11. Radio Frame transmission		No contents	

3. CONCLUSION

This paper presents a comparison between ETSI documentation YY.02 and relevant ARIB documentation.

4. REFERENCES

[1] UMTS (YY.02), Layer 1; General Requirements, version 1.1.0, 1998-12 (Tdoc SMG2 UMTS L23 005/99)

[2] Volume 3, Specifications of Air-Interface for 3G Mobile System, Version 1.0, January 14 1999, ARIB

[3] MAC Sublayer Specification for 3G Mobile system, Version 1.0, January 11, 1999, SWG2/ST7