

ANSI-41 MAP ANSI 12/97

Statement of Compliance

STATEMENT OF COMPLIANCE

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1 General

1.1 Introduction

This document contains a compliance statement of Ericsson Signaling ANSI-41 MAP, ANSI 12/97 protocol layer versus:

- ☐ ANSI-41.1-D - ANSI-41.6-D December 1997, see reference Reference [1] - Reference [6]
- ☐ Interim Over-The-Air-Activation Specification from TDMA forum, see reference Reference [15]
- ☐ IS-725-A, TIA/EIA-41-D Enhancement for Over-The-Air Service Provisioning (OTASP) & Parameter Administration (OTAPA), see referenceInterim Over-the-Air-Activation specification from TDMA Forum, see reference Reference [8]
- ☐ IS-751, TIA/EIA-41-D Modifications to support IMSI (International Mobile Station Identity, see reference Reference [7]
- ☐ J-STD-036, Enhanced Wireless 9-1-1 Phase 2, see reference Reference [9]
- ☐ IS-730, IS-136 (DCCH) Support in IS-41, see reference Reference [10]
- ☐ IS-764, Wireless Calling Name Feature Description, see reference Reference [11]
- ☐ IS-771, WIN TIA/EIA-41-C Modifications, see reference Reference [12]
- ☐ IS-826, Wireless Intelligent Network Capabilities for Pre-Paid Charging (WIN Phase 2 part 1), see reference Reference [13]
- ☐ IS-841, TIA/EIA-41-D Enhancement for Mobile Directory Number (MDN) based Message Centres, see reference Reference [14]
- ☐ X.S0004-540-E, Mobile Application Part (MAP) - Operations Signaling Protocols, see reference Reference [16]
- ☐ X.S0004-550-E, Mobile Application Part (MAP) - Parameters Signaling Protocols, see reference Reference [17]

The OTAF standard documents refer to the ANSI-41-D standard for some parameters and operations. For a compliance statement of these parameters and operations see chapter 2.5



1.2 Terms

The OTAF standard documents refer to the ANSI-41-D standard for some parameters and operations. For a compliance statement of these parameters and operations see chapter

ANSI	American National Standards Institute
ANSI 41	ANSI Standard 41(formerly known as IS-41)
CAS	Call Associated Signaling
CDMA	Code Division Multiple Access
EIA	Electronic Industries Association
EIN	Ericsson Infotech AB
ELID	Emergency Location Information Delivery
ESME	Emergency Services Message Entity
IMSI	International Mobile Station Identity
IS	Interim Standard
ITU	International Telecommunication Union
MAP	Mobile Application Part
MDN	Mobile Directory Number
MTPL3	Message Transfer Part Level 3
NCAS	Mon Call Associated Signaling
OTAF	Over-the-Air Activation Function
OTAPA	Over-the-Air Parameter Administration
OTASP	Over-the-Air Service Provisioning
PDE	Position Determining Entity
SCCP	Signaling Connection Control Part
SMS	Short Message Service
SS7	Signaling System 7
TCAP	Transaction Capabilities Application Part
TDMA	Time Division Multiple Access



1.3	TIA	Telecommunications Industry Association
	WIN	Wireless Intelligent Network
	Concept	
	C	The Ericsson signaling component complies with the specified section in the standard
	N	The Ericsson signaling component does not comply with the specified section in the standard.
	P	The Ericsson signaling component complies partly with the specified section in the standard.
	-	There is nothing to implement in the referred section (always placed in column C).





2 Compliance Lists

2.1 Cellular radiotelecommunications intersystem operations: Functional overview

Table 1 Cellular radiotelecommunications intersystem operations: Functional overview

Reference	C	N	P	Comments
1. Introduction	-			
2. References	-			
3. Definitions and Documentation Conventions	-			
4. Symbols and Abbreviations	-			
5. Network Reference Mode	-			
6. Cellular Intersystem Services	-			
7. General Background and Assumptions	-			
8. Restrictions	-			

2.2 ANSI 41.2-D, Cellular Radiotelecommunications Intersystem Operations: Intersystem Handoff Information Flows

Table 2 Cellular Radiotelecommunications Intersystem Operations: Intersystem Handoff Information Flows

Reference	C	N	P	Comments
1. Introduction	-			
2. References	-			
3. Terminology	-			
4. Intersystems Handoff Operations		X		
5. Basic Intersystem Handoff Scenarios		X		



2.3

ANSI 41.3-D, Cellular Radiotelecommunications Intersystem Operations: Automatic Roaming Information Flows

Table 3 Cellular Radiotelecommunications Intersystem Operations: Automatic
Roaming Information Flows

Reference	C	N	P	Comments
1. Introduction	-			
2. References	-			
3. Terminology	-			
4. Automatic Roaming Operations		X		
4.1 - 4.16		X		
4.17 LocationRequest			X	Note 17 Page 34
4.17.1 - 4.17.6			X	Note 17 Page 34
4.18 - 4.31		X		
4.32 SMSDeliveryPointToPoint	X			
4.32.1 - 4.32.2	X			
4.33 SMSNotification			X	Note 1 Page 33
4.33.1 - 4.33.2			X	Note 2 Page 33
4.34 SMSRequest			X	Note 1 Page 33
4.34.1 - 4.34.2			X	Note 2 Page 33
4.35 - 4.37		X		
5. Basic Automatic Roaming Scenarios		X		
6. Voice Features Scenarios		X		
7. Short Message Scenarios	-			
7.1 - 7.5			X	Note 2 Page 33
7.6 Short Message from an MS-Based SME to a Fixed SME		X		
7.7 - 7.12			X	Note 2 Page 33
7.13 Roaming to an SMS-Incapable System with Pending Postponed Delivery		X		
7.14 Roaming to an SMS-Capable System with Pending Postponed Delivery			X	Note 2 Page 33



Reference	C	N	P	Comments
7.15 - 7.19		X		
7.20 Postponed MSC SMSNotification with Multiple SMDPPs			X	Note 2 Page 33
7.21 - 7.22		X		
7.23 - 7.25			X	Note 2 Page 33
Annex A (normative): Assumptions		X		

2.4

ANSI 41.4-D, Cellular Radiotelecommunications Intersystem Operations: OA & M Information Flows and Procedures

Table 4 Cellular Radiotelecommunications Intersystem Operations: OA & M
Information Flows and Procedures

Reference	C	N	P	Comments
1. Introduction	-			
2. References	-			
3. Definitions and Documentation Conventions	-			
4. Intersystems OA&M Operations		X		
5. OA&M Message Procedures for Handoff		X		
6. InterMSC Trunk Testing		X		
7. Issues for Further Study	-			

2.5

ANSI 41.5-D, Cellular Radiotelecommunications Intersystem Operations: Signaling Protocols

Table 5 Cellular Radiotelecommunications Intersystem Operations: Signaling
Protocols

Reference	C	N	P	Comments
1. Introduction	-			
2. References	-			
3. Terminology	-			



Reference	C	N	P	Comments
4. MAP Protocol Architecture	-			
5. Data Transfer Services	-			
5.1 SS7-Based Data Transfer Services	-			
5.1.1 Message Transfer Part	X			Note 24 Page 34
5.1.2 Signalling Connection Control Part	X			Note 24 Page 34
5.2 X.25-Based Data Transfer Services		X		
5.3 ITU-7-Based Data Transfer Services	-			
5.3.1 Message Transfer Part	X			Note 24 Page 34
5.3.2 Signalling Connection Control Part	X			Note 24 Page 34
6. Application Services	-			
6.1 - 6.3	-			
6.3.1 Transaction Portion	X			
6.3.2 Component Portion			X	Note 3 Page 33
6.3.2.1. - 6.3.2.4	X			
6.4 MAP Operations	-			
6.4.1 General	-			
6.4.1.1 Operation Formats	X			
6.4.1.2 Operation Specifiers	X			Note 4 Page 33
6.4.1.3.Mapping of Operations onto TCAP Package Types	X			
6.4.2 Operation Definitions	-			
6.4.2.1 - 6.4.2.12		X		
6.4.2.13 FeatureRequest			X	Note 16 Page 34, Note 19 Page 34, Note 22 Page 34, Note 23 Page 34
6.4.2.14 - 6.4.2.26		X		
6.4.2.27 LocationRequest			X	Note 17 Page 34, Note 22 Page 34, Note 23 Page 34, Note 30 Page 35
6.4.2.28 MobileOnChannel		X		



Reference	C	N	P	Comments
6.4.2.29 MSInactive	X			Note 16 Page 34, Note 22 Page 34
6.4.2.30 OriginationRequest			X	Note 12 Page 33, Note 16 Page 34, Note 22 Page 34, Note 23 Page 34
6.4.2.31 - 6.4.2.33		X		
6.4.2.34 RedirectionDirective			X	Note 6 Page 33, Note 17 Page 34, Note 20 Page 34, Note 22 Page 34, Note 23 Page 34
6.4.2.35 RedirectionRequest		X		
6.4.2.36 RegistrationCancellation			X	Note 7 Page 33, Note 16 Page 34, Note 22 Page 34, Note 23 Page 34
6.4.2.37 RegistrationNotification			X	Note 8 Page 33, Note 16 Page 34, Note 22 Page 34, Note 23 Page 34
6.4.2.38 - 6.4.2.39		X		
6.4.2.40 RoutingRequest			X	Note 6 Page 33, Note 18 Page 34, Note 21 Page 34, Note 22 Page 34, Note 23 Page 34
6.4.2.41 - 6.4.2.42		X		
6.4.2.43 SMSDeliveryPointToPoint	X			Note 6 Page 33, Note 18 Page 34, Note 22 Page 34, Note 23 Page 34
6.4.2.44 SMSNotification	X			Note 16 Page 34, Note 22 Page 34, Note 23 Page 34
6.4.2.45 SMSRequest	X			Note 6 Page 33, Note 17 Page 34, Note 22 Page 34, Note 23 Page 34
6.4.2.46 - 6.4.2.51		X		
6.5 MAP Parameters	-			



Reference	C	N	P	Comments
6.5.1 General	-			
6.5.1.1 Parameter Format	X			
6.5.1.2 Parameter Identifiers	X			Note 5 Page 33
6.5.2 Parameter Definitions	-			Note 25 Page 34
6.5.2.1 - 6.5.2.2	X			
6.5.2.3 - 6.5.2.4		X		
6.5.2.5 - 6.5.2.6	X			
6.5.2.7 AuthenticationAlgorithmVersion		X		
6.5.2.8 - 6.5.2.11	X			
6.5.2.12 AuthenticationResponseUniqueChallenge		X		
6.5.2.13 - 6.5.2.18	X			
6.5.2.19 - 6.5.2.20		X		
6.5.2.21 - 6.5.2.23	X			
6.5.2.24 6.5.2.24 CallingPartyNumberString2		X		
6.5.2.25 CallingPartySubaddress	X			
6.5.2.26 CancellationDenied		X		
6.5.2.27 CancellationType	X			
6.5.2.28 - 6.5.2.46		X		
6.5.2.47 ChannelData	X			
6.5.2.48 - 6.5.2.50		X		
6.5.2.51 ControlChannelData	X			
6.5.2.52 CountUpdateReport		X		
6.5.2.53 - 6.5.2.55	X			
6.5.2.56 - 6.5.2.57		X		
6.5.2.58 Digits	X			
6.5.2.59 - 6.5.2.61		X		
6.5.2.62 - 6.5.2.64	X			
6.5.2.65 ExtendedSystemMessageTypeCode		X		
6.5.2.66 - 6.5.2.67	X			
6.5.2.68 - 6.5.2.73		X		



Reference	C	N	P	Comments
6.5.2.74 IntersystemTermination			X	Note 13 Page 33
6.5.2.75 LegInformation		X		
6.5.2.76 LocalTermination			X	Note 13 Page 33
6.5.2.77 LocationAreaId	X			
6.5.2.78 MessageWaitingNotificationCount	X			
6.5.2.79 MessageWaitingNotificationType		X		
6.5.2.80 - 6.5.2.83	X			
6.5.2.84 - 6.5.2.87		X		
6.5.2.88 - 6.5.2.90	X			
6.5.2.91 - 6.5.2.92		X		
6.5.2.93 PC_SSN	X			
6.5.2.94 - 6.5.2.96		X		
6.5.2.97 Profile			X	Note 9 Page 33
6.5.2.98 PSTNTermination			X	Note 13 Page 33
6.5.2.99 QualificationInformationCode	X			
6.5.2.100 RANDC		X		
6.5.2.101 - 6.5.2.102	X			
6.5.2.103 - 6.5.2.105		X		
6.5.2.106 ReceivedSignalQuality	X			
6.5.2.107 RedirectingNumberDigits	X			
6.5.2.108 - 6.5.2.111		X		
6.5.2.112 - 6.5.2.114	X			
6.5.2.115 SeizureType		X		
6.5.2.116 SenderIdentificationNumber	X			
6.5.2.117 - 6.5.2.121		X		
6.5.2.122 - 6.5.2.135	X			
6.5.2.136 SMS_OriginationRestrictions		X		
6.5.2.137 SMS_TeleserviceIdentifier	X			



Reference	C	N	P	Comments
6.5.2.138. - 6.5.2.141		X		
6.5.2.142 SSDUpdateReport	X			
6.5.2.143 StationClassMark		X		
6.5.2.144 - 6.5.2.147	X			
6.5.2.148 - 6.5.2.152		X		
6.5.2.153 - 6.5.2.157	X			
6.5.2.158 - 6.5.2.159		X		
6.5.2.160 TransactionCapability	X			
6.5.2.161 TrunkStatus		X		
6.5.2.162 UniqueChallengeReport	X			
6.5.2.163 - 6.5.2.166		X		
6.5.3 Parameter Type Definitions	X			
7. MAP Compatibility Guidelines and Rules	-			
7.1 Achieving Forward Compatibility and Backward Compatibility	-			
7.1.1 Forward Compatibility	-			
7.1.2 Backward Compatibility	-			
7.2 Guidelines for Forward Compatibility	X			
7.3 Guidelines for Backward Compatibility	X			

2.6

ANSI 41.6-D, Cellular Radiotelecommunications Intersystem Operations: Signaling Procedures

Table 6 Cellular Radiotelecommunications Intersystem Operations: Signaling Procedures

Reference	C	N	P	Comments
1. Introduction	-			
2. Technology and Concepts	-			
3. Basic Call Processing	-			
4. Intersystem Procedures	-			



Reference	C	N	P	Comments
5. Voice Feature Procedures	-			
6. Common Voice Feature Procedures	-			
7. Operation Timer Values	X			
Annex A: Procedures for RANDC Verification	-			
Annex B: Procedures for SSD Management at AC	-			
Annex C: Authentication Response Verification	-			
Annex D: SMS Air Interface Delivery Point-to-Point	-			
Annex E: Global Service Logic	-			
Annex F: Signal Strength Arbitration	-			

2.7

IS-725-A, TIA/EIA-41-D Enhancement for Over-The-Air Service Provisioning (OTASP) & Parameter Administration (OTAPA)

Table 7 TIA/EIA-41-D Enhancement for Over-The-Air Service Provisioning (OTASP) & Parameter Administration (OTAPA)

Reference	C	N	P	Comments
1. Introduction	-			
2. Subscriber Feature Description	-			
3. Functional Overview	-			
4c. Automatic Roaming Operations - CDMA			X	Note 10 Page 33
4.1 Authentication Directive		X		
4.32 SMS Delivery Point To Point			X	Note 14 Page 33
4.32.C1 - 4.32.C3			X	Note 10 Page 33
4.33 - 4.34			X	Note 14 Page 33
4.CC OTASP Request			X	Note 11 Page 33
4.CC.1 OTAF Request to Initiate AC Procedures			X	Note 10 Page 33
5C - 8.CC	-			



Reference	C	N	P	Comments
8.CC.1a - 8.CC.10			X	Note 10 Page 33
9. - 9.CC	-			
9.CC.1 OTA Parameter Administration - Registration		X		
9.CC.2 - 9.CC.5			X	Note 10 Page 33
Annex A (Normative): Assumptions	-			
6C. - 6C.1.1	-			
5.1.2 Signaling Connection Control Part	X			Note 24
6.4.1.2 - 6.4.2	X			
6C.1.2 Modifications to Existing Operations	-			
6.4.2.1 -6.4.2.6		X		
6.4.2.13 FeatureRequest	X			Note 16 Page 34, Note 19 Page 34, Note 22 Page 34 , Note 23 Page 34
6.4.2.37 RegistrationNotification			X	Note 8 Page 33, Note 16 Page 34, Note 22 Page 34 , Note 23 Page 34
6.4.2.43 SMSDeliveryPointToPoi nt	X			Note 6 Page 33, Note 18 Page 34, Note 22 Page 34 , Note 23 Page 34
6.4.2.46 SMSRequest	X			Note 6 Page 33, Note 17 Page 34, Note 22 Page 34 , Note 23 Page 34
6C.1.3 New Operations	-			
6.4.2.CC OTASPPRequest	X			Note 6 Page 33, Note 17 Page 34, Note 22 Page 34 , Note 23 Page 34
6C.2 - 6.5.2.1	-			
6.5.1.2 Parameter Identifiers	X			Note 5 Page 33
6C.2.2 Modifications to Existing Parameters	-			Note 25 Page 34
6.5.2.2 - 6.5.2.125	X			



Reference	C	N	P	Comments
6.5.2.138 SMS_TerminationRestrictions		X		
6.5.2.145 - 6.5.2.16	X			
6C.2.3 New Parameters	-			Note 25Page 34
6.5.2.1B - 6.5.2.xB	X			
6.5.2.yC TemporaryReferenceNumber			X	Note 26 Page 34
6.5.2.zB VoicePrivacyReport	X			
6.5.2.dnC MSC_Address		X		
6.5.2.dpC - 6.5.2.aeB	X			
6.5.3 Parameter Type Definitions	-			
6.5.3.u1 - 6.5.3.u2	X			
7c. Signalling Procedures- CDMA	-			
4T. Automatic Roaming Operations - TDMA			X	Note 10 Page 33
4.19 Originating Request			X	Note 11 Page 33
4.19.T1 Successful Origination Activation			X	Note 10 Page 33
4.26 Registration Notification			X	Note 11Page 33
4.26.T1 - 4.26.T2			X	Note 10 Page 33
4.32 SMSDeliveryPointToPoint			X	Note 14Page 33
4.32.T1 - 4.32.T2			X	Note 10 Page 33
4.33. SMSNotification			X	Note 14 Page 33
4.33.1 -4.33.			X	Note 15Page 34
4.34. SMSRequest			X	Note 14 Page 33
4.34.T1. Successful SMSRequest during OTASP: MS-Based SME			X	Note 10 Page 33
4.TT OTASPRequest			X	Note 11Page 33
4.TT.1 OTAF Request to Initiate AC Procedures			X	Note 10 Page 33
5. - 8.TT	-			
8.TT.1 - 8.TT.6			X	Note 10 Page 33
8.TT.7 - 8.TT.8		X		
8.TT.9 OTAF Request to Initiate A-key Generation			X	Note 10 Page 33



Reference	C	N	P	Comments
8.TT.10 OTAF to Perform SSD Update	-			
8.TT.10a - 8.TT.13			X	Note 10 Page 33
9. - 9.TT	-			
9.TT.1 - 9.TT.3			X	Note 10 Page 33
6T - 6T.1.1	-			
6.4.1.2 Operation Specifiers	X			Note 4 Page 33
6.4.2 - 6T.1.2	-			
6.4.2.1 - 6.4.2.5		X		
6.4.2.30 OriginationRequest			X	Note 12 Page 33, Note 16 Page 34, Note 22 Page 34 , Note 23 Page 34
6.4.2.37 RegistrationNotification			X	Note 8 Page 33, Note 16 Page 34, Note 22 Page 34 , Note 23 Page 34
6.4.2.44 SMSNotification	X			Note 16 Page 34, Note 22 Page 34 , Note 23 Page 34
6.4.2.45 SMSRequest	X			Note 6 Page 33, Note 17 Page 34, Note 22 Page 34 , Note 23 Page 34
6T.1.3 New Operations	-			
6.4.2.TT OTASPRquest	X			Note 6 Page 33, Note 17 Page 34, Note 22 Page 34 , Note 23 Page 34
6T.2 Parameters - 6T.2.1	-			
6.5.1.2 Parameter Identifiers	X			Note 5 Page 33
6T.2.2 Modifications to Existing Parameters	-			
6.5.2.137 SMS_TeleserviceIdentifier	X			
6T.2.3 New Parameters	-			Note 25 Page 34
6.5.2.mT - 6.5.2.vT		X		
7T Signalling Procedures - TDMA	-			



2.8 IS-751, TIA/EIA-41-D Modifications to SUPPORT IMSI

Table 8 TIA/EIA-41-D Modifications to SUPPORT IMSI

Reference	C	N	P	Comments
Assumptions	-			
1. - 10.	-			
TIA/EIA-41.1 Changes (Functional Overview)	-			
TIA/EIA-41.2 Changes (Handoff Information Flows)	-			
4.1.1 - 4.10.2		X		
TIA/EIA-41.3 Changes (Automatic Roaming Information Flows)	-			
4.1 - 4.31		X		
4.32 SMSDeliveryPointToPoint	-			
4.32.1 - 4.32.2	X			
4.33 SMSNotification	-			
4.33.1 - 4.33.2			X	Note 2 Page 33
4.34 SMSRequest	-			
4.34.1 - 4.34.2			X	Note 2 Page 33
4.35 - 6.23.1	X			
7.1 - 7.25			X	Note 2 Page 33
TIA/EIA-41.4 Changes (OA & M Information Flows and Procedures)	-			
TIA/EIA-41.5 Changes (Signaling Messages and Parameters)	-			
5.1.2 Signaling Connection Control Part	X			Note 24 Page 34
6.3.2.3.1 Error Definitions	X			
6.4.2.1 - 6.4.2.12		X		
6.4.2.13 FeatureRequest	X			
6.4.2.14 - 6.4.2.28		X		
6.4.2.29 - 6.4.2.30	X			
6.4.2.31 - 6.4.2.32		X		
6.4.2.34 RedirectionDirective	X			



Reference	C	N	P	Comments
6.4.2.35 RedirectionRequest		X		
6.4.2.36 - 6.4.2.37	X			
6.4.2.40 RoutingRequest	X			
6.4.2.41 - 6.4.2.42		X		
6.4.2.43 - 6.4.2.45	X			
6.4.2.43 - 6.4.2.51		X		
6.5 MAP Parameters	-			Note 25 Page 34
6.5.1 General	-			
6.5.1.1 - 6.5.1.2	X			
6.5.2.54 DenyAccess	X			
6.5.2.60 - 61		X		
6.5.2.bu IMSI	X			
6.5.2.74 IntersystemTermination			X	Note 13 Page 33
6.5.2.76 LocalTermination			X	Note 13 Page 33
6.5.2.bv MSID	X			
6.5.2.98 PSTNTermination			X	Note 13 Page 33
6.5.2.112 ReportType	X			
6.5.2.125 SMS_CauseCode	X			
TIA/EIA-41.6 Changes (Signaling Procedures)	-			
SMS Air Interface Delivery Point-to-Point	-			

2.9 Interim Over-the-Air-Activation specification from TDMA Forum

The Interim Over-the-Air-Activation specification from TDMA forum, dated December 24,1996,version 1.1 is supported with the following exceptions:

The ANSI-41 protocol layer only provides support for the OTAF node.

2.10 J-STD-036,ENHANCED WIRELESS 9-1-1 PHASE 2

Table 9 ENHANCED WIRELESS 9-1-1 PHASE 2

Reference	C	N	P	Comments
1: Overview	-			



Reference	C	N	P	Comments
1 Introduction	-			
2 References	-			
3 Definitions and Acronyms	-			
2: Stage 1 Emergency Services Service Descriptions	-			
1 Introduction	-			
2 Assumptions	-			
3 Common Assumptions			X	Note 27 Page 34
3.1 ANSI-41 Assumptions			X	Note 28 Page 35, Note 27 Page 34
3.2 PCS1900 Assumptions		X		
3: Functional Overview, ANSI-41	-			
1 Introduction	-			
2 Methodology	-			
3 Network Reference Model			X	Note 28 Page 35
4 Network Entities	-			
5 Messages Across Network Interfaces			X	Note 28 Page 35
6 Network Entity Relationships	-			
Stage 2 Emergency Services Network Description, ANSI-41.3	-			
1 Modifications to ANSI-41.3 Table 1		X		
2 Emergency Location Information Delivery (ELID) Scenarios	-			
2.1 ELID Using CAS Push		X		
2.2 ELID Using NCAS Pull			X	Note 28 Page 35
2.3 Emergency Services Call Routing and ELID			X	Note 28 Page 35
2.4 Position Update Using NCAS Pull			X	Note 28 Page 35
2.5 MPC Failure		X		
2.6 Call Termination		X		
2.7 PDE Request for Network Data		X		



Reference	C	N	P	Comments
3 PDE to MS Scenarios for Handset-Based PDE	-			
3.1 CDMA		X		
3.2 TDMA		X		
Chapter 5: Functional Overview, PCS1900		X		
Chapter 6: Stage 2 Emergency Services Network Description, PCS1900		X		
Chapter 7: Stage 3 Implementation Perspective: Emergency Services Protocol (ESP)	-			
1 Introduction	-			
1.1 Transaction Portion	X			
1.2 Component Portion			X	Note 3 Page 33
2 Emergency Services Protocol Abstract Syntax	X			
Chapter 8: Stage Implementation Perspective: ANSI-41.5 Enhancements	-			
1 Introduction		X		
2 Operations and Parameter Definitions	-			
2.1 MAP Operations	-			
2.1.1 General	-			
2.1.1.1 - 2.1.1.7		X		
2.1.1.8 OriginationRequest			X	Note 29 Page 35
2.1.1.9 SMSDeliveryPointToPoint			X	Note 29 Page 35
2.2 MAP Parameters	-			
2.2.1 General	-			
2.2.1.1 Parameter Format	X			
2.2.1.2 Parameter Identifiers		X		
2.2.2 Parameter Definitions	-			
2.2.2.1 ActionCode			X	Note 29 Page 35
2.2.2.2 - 2.2.2.6		X		
2.2.2.7 GeneralizedTime	X			



Reference	C	N	P	Comments
2.2.2.8 GeographicPosition	X			
2.2.2.10 MobileCallStatus	X			
2.2.2.11 - 2.2.2.19		X		
2.2.2.20 PositionSource	X			
2.2.2.21 Profile		X		
2.2.2.22 ServiceIndicator			X	Note 29 Page 35
2.2.2.23 SMS_TeleserviceIdentifier			X	Note 29 Page 35
2.2.2.24 TeleservicePriority		X		
2.2.3 Parameter Type Definitions	-			
2.2.3.1 Digits Type	X			
3 ANSI-41 Procedures	-			
4 Operation Timer Values	X			
9: Location Services Protocol		X		
Annex A: Analysis of the Network Reference Model	-			
Annex B: Local Positioning Determining Entity	-			
Annex C: Non-dialable Callback Numbers	-			
Annex D: Parameter Mapping for Interconnection	-			
Annex E: Mapping Between TIA/EIA-41 and ISUP Digit Parameters	-			
Annex F: MSC to Selective Router/PSAP Interconnection Scenarios	-			

2.11 IS-730,IS-136 (DCCH) Support IN IS-41

Table 10 IS-136 (DCCH) Support IN IS-41

Reference	C	N	P	Comments
1 Introduction	-			
2 References	-			
3 Stage 1 Service Descriptions	-			



Reference	C	N	P	Comments
4 Intersystem Handoff Information Flows		X		
5 Automatic Roaming Information Flows		X		
6 IS-41.5-C Signaling Protocol Modifications	-			
6.1 - 6.3		X		
6.4 New Parameters	-			
6.5.2.aa - 6.5.2.ak		X		
6.5.2.i TDMAServiceCode	X			
6.5.2.j - 6.5.2.am		X		
7 Signaling Procedures	-			

2.12 IS-764, Wireless Calling Name Feature Description

Table 11 Wireless Calling Name Feature Description

Reference	C	N	P	Comments
1 Introduction	-			
2 TIA/EIA-664 Modifications	-			
3 TIA/EIA-41-D Chapter 1 Modifications	-			
4 TIA/EIA-41-D Chapter 3 Modifications		X		
5 TIA/EIA-41.5-D Modifications	-			
5.1.1 Message Transfer Part		X		
6.4.1.2 - 6.4.1.3		X		
6.4.2 Operation Definition		X		
6.4.2.13 - 6.4.2.H			X	Note 31 Page 35, Note 32 Page 35
6.5.1.2 Parameter Identifier			X	Note 32 Page 35
6.5.2.88 - 6.5.2.bx		X		
6.5.2.bx RedirectingPartyNumber	X			
6.5.2.bz ServiceId	X			
6 TIA/EIA-41.6-D Modifications	-			
7 Operation Timer Values		X		



2.13 IS-771, WIN TIA/EIA-41-C Modifications

Table 12 IS-771, WIN TIA/EIA-41-C Modifications

Reference	C	N	P	Comments
Chapter 1: Overview	-			
Chapter 2: Modifications to TIA/EIA-664	-			
Chapter 3: Modifications to TIA/EIA Functional Overview	-			
Chapter 4: Modifications to TIA/EIA-41-D Automatic Roaming Information Flows	-			
4 Automatic Roaming Operations	-			
4.1 - 4.M		X		
8 Wireless Intelligent Network (WIN) Scenarios		X		
Chapter 5: Modifications to TIA/EIA-41.5-D Signaling Protocols	-			
5.1 SS7 Based Data Transfer Services	-			
5.1.1 Message Transfer Part		X		
5.1.2 Signaling Connection Control Part	X			
6 Application Services	-			
6.4.1 General	-			
6.4.1.2 - 6.4.1.3		X		
6.4.2 Operation Definitions	-			
6.4.2.13 - 6.4.2.u			X	Note 31 Page 35, Note 33 Page 35
6.5 MAP Parameters	-			
6.5.1.2 Parameter Identifier			X	Note 33 Page 35
6.5.2.1 AccessDeniedReason			X	Note 29 Page 35
6.5.2.97 Profile		X		
6.5.2.160 TransactionCapability			X	Note 29 Page 35
6.5.2.ca - 6.5.2.cj		X		
6.5.2.ck DestinationAddress	X			
6.5.2.cl - 6.5.2.cn		X		

Reference	C	N	P	Comments
6.5.2.co GlobalTitle	X			
6.5.2.cp - 6.5.2.dd		X		
6.5.2.de - 6.5.2.dk	X			
A Annex A: ASN.1 Notation for WIN Parameters		X		
Chapter 6: Modification to TIA/EIA-41.6-D Signaling Procedures	-			
Chapter 7: Distributed Functional Plane	-			

2.14 IS-826, WIN Capabilities for Pre-Paid CHARGING (WIN PHASE 2 part 1)

Table 13 WIN Capabilities for Pre-Paid CHARGING (WIN PHASE 2 part 1)

Reference	C	N	P	Comments
Chapter 1: Overview	-			
Chapter 2: Modifications to TIA/EIA-664	-			
Chapter 3: Modifications to TIA/EIA Functional Overview	-			
Chapter 4: Modifications to TIA/EIA-41-D Automatic Roaming Information Flows	-			
4 Automatic Roaming Operations	-			
4.1 - 4.M		X		
8 Wireless Intelligent Network (WIN) Scenarios	-	X		
Chapter 5: Modifications to TIA/EIA-41.5-D Signaling Protocols	-			
5.1 SS7 Based Data Transfer Services	-			
5.1.1 Message Transfer Part		x		
6 Application Services	-			
6.4.1 General	-			
6.4.1.2 - 6.4.1.3		x		



Reference	C	N	P	Comments
6.4.2 Operation Definitions	-			
6.4.2.27 - 6.4.2.af			x	Note 31 Page 35, Note 34 Page 35
6.5 MAP Parameters	-			
6.5.1.2 Parameter Identifier			X	Note 34 Page 35
6.5.2.2 ActionCode			X	Note 29 Page 35
6.5.2.5 AnnouncementCode			X	Note 29 Page 35
6.5.2.97 Profile		X		
6.5.2.df - 6.5.2.dj			X	Note 35 Page 35
6.5.2.eg - 6.5.2.eh		X		
6.5.2.ei DMH_ServiceId	X			
6.5.2.ej - 6.5.2.en		X		
Chapter 6: Modifications to TIA/EIA-41.6-D Signaling Procedures	-			
Chapter 7: Modifications to TIA/EIA/IS-771 Distributed Functional Plane	-			

2.15

IS-841, TIA/EIA-41-D Based Network Enhancements for MDN Based Message Centres

Table 14 TIA/EIA-41-D Based Network Enhancements for MDN Based Message Centres

Reference	C	N	P	Comments
1 Introduction	-			
Chapter 2: Modifications to TIA/EIA-41.3-D Stage 2 Automatic Roaming Information Flows Enhancements		X		
4.33 SMSNotification		X		
4.33.1 - 4.33.2		X		
4.34 SMSRequest	X			
4.34.1 - 4.34.2	X			
6 Voice Features Scenarios		X		

Reference	C	N	P	Comments
6.13 Message Waiting Notification		X		
6.13.x1 - 6.13.x3		X		
7 Short Message Service Scenarios	-			
7.1 - 7.5			X	Note 2 Page 33
7.8 - 7.11			X	Note 2 Page 33
Chapter 3: Modifications to TIA/EIA-41.5-D Stage 3 Signalling Protocol Enhancements				
6.4.1.2 Operation Specifiers	X			Note 4 Page 33
6.4.2 Operation Definitions	-			
6.4.2.xx Message Directive		X		
6.4.2.43 SMSDeliveryPointToPoint		X		
6.4.2.44 SMSNotification		X		
6.4.2.45 SMSRequest	X			
Chapter 4: Modifications to TIA/EIA-41.6-D Stage 3 Signaling Procedures Enhancements				
4.XX Message Directive	-			
4.XX.1 HLR Receiving MessageDirective INVOKE		X		
4.47 SMSNotification		X		
4.47.1 - 4.47.3		X		
4.48.1 - 4.48.2	-			
7 Operation Timer Values		X		

2.16

X.S0004-540-E, Mobile Application Part (MAP) - Operations Signaling Protocols

Table 15 X.S0004-540-E, Mobile Application Part (MAP) - Operations Signaling Protocols

Reference	C	N	P	Comments
Chapter 1: MAP Operations	-			
1.1General	-			



Reference	C	N	P	Comments
1.2 Operation Formats	X			
1.3 Parameters cross references	-			
1.3 Operation Specifiers	X			Note 4 Page 33
Chapter 2: Operation Definitions	-			
2.1 AnalyzedInformation	X			
2.2 - 2.19		X		
2.20 FeatureRequest			X	Note 36 Note 16 Page 34
2.21 - 2.36		X		
2.37 LocationRequest	X			
2.38 - 2.40		X		
2.41 MSInactive			X	Note 37 Page 35 Note 16 Page 34
2.42		X		
2.43 OriginationRequest	X			
2.44 OTASPPRequest			X	Note 38 Page 35 Note 17 Page 34
2.45 - 2.49		X		
2.50 RedirectionDirective			X	Note 39 Page 36 Note 17 Page 34
2.51 RedirectionRequest	X			
2.52 RegistrationCancellation			X	Note 40 Page 36 Note 16 Page 34
2.53 RegistrationNotification			X	Note 41 Page 36 Note 16 Page 34
2.54 - 2.57		X		
2.58 RoutingRequest			X	Note 42 Page 36
2.59 - 2.63		-		
2.64 SMSDeliveryPointToPoint	-			
2.64.1 SMSDeliveryPointToPoint PointToPoint variant	X			
2.64.2 SMSDeliveryPointToPoint Broadcast variant		X		



Reference	C	N	P	Comments
2.65		X		
2.66 SMSNotification			X	Note 43 Page 36 Note 16 Page 34
2.67 SMSRequest			X	Note 44 Page 36 Note 17 Page 34
2.68 - 2.77		X		

2.17 X.S0004-550-E, Mobile Application Part (MAP) - Parameters Signaling Protocols

Table 16 X.S0004-550-E, Mobile Application Part (MAP) - Parameters Signaling Protocols

Reference	C	N	P	Comments
Chapter 1: General	-			
1.1 Parameter Format	X			
1.2 Parameter Identifiers	X			Note 5 Page 33
Chapter 2: Parameter Definitions	-			Note 25 Page 34
2.1 - 2.3	X			
2.4 - 2.8		X		
2.9-2.10	X			
2.11 AuthenticationAlgorithmVersion		X		
2.12 -2.13	X			
2.14 AuthenticationFailureEvent		X		
2.15 - 2.16	X			
2.17 - 2.18		X		
2.19 - 2.21	X			
2.22 BaseStationanufacturerCode		X		
2.23 - 2.25	X			
2.26 - 2.35		X		
2.36 - CallHistoryCount	X			
2.37 - 38		X		
2.39 - 2.44	X			



Reference	C	N	P	Comments
2.45 CancelationDenied		X		
2.46 - 2.47	X			
2.48 - 2.75		X		
2.76 CDMAServiceOption	X			
2.77 - 2.91		X		
2.92 CommandCode	X			
2.93		X		
2.94 ConferenceCallingIndicator	X			
2.95 ConfidentialityModes.		X		
2.96 ControlChanelData	X			
2.97 - 2.108		X		
2.109 - 2.112	X			
2.113 - 2.114		X		
2.115 - 2.123	X			
2.124 - 2.125		X		
2.126 ExtendedMSCID	X			
2.127 - 2.129		X		
2.130 - 2.131	X			
2.132 GeographicAuthorization		X		
2.133 - 2.134	X			
2.135 - 2.136		X		
2.137 -2.138	X			
2.139 - 2.140		X		
2.141 IntersystemTermination			X	Note 13 Page 33
2.142		X		
2.143 LegInformation	X			
2.144 LocalTermination			X	Note 13 Page 33
2.145 - 2.146	X			
2.147 - MessageWaitingNotifica tionType		X		
2.148 -2.154	X			
2.155 - 2.158		X		
2.159 ModulusValue	X			



Reference	C	N	P	Comments
2.160 MSC_Address		X		
2.161 - 2.163	X			
2.164 - 2.169		X		
2.170 - 2.173	X			
2.174 NewNetworkTMSI		X		
2.175 NoAnswerTime	X			
2.176 NonPublicData		X		
2.177 - 2.180	X			
2.181 - 2.185		X		
2.186 PC_SSN	X			
2.187 PilotBillingID		X		
2.188 - 2.190	X			
2.191 PrivateSpecializedResource		X		
2.192 Profile			X	Note 9 Page 33
2.193 - 2.194		X		
2.195 PSTNTermination			X	Note 13 Page 33
2.196 QoSPriority		X		
2.197 QualificationInformationCode	X			
2.198 RANDC		X		
2.199 - 2.200	X			
2.201 - 2.206		X		
2.207 - 2.212	X			
2.213		X		
2.214 ReportType	X			
2.215 RequiredParametersMask		X		
2.216 RestrictionDigits	X			
2.217 - 2.218		X		
2.219 RoutingDigits	X			
2.220 - 2.224		X		
2.225 SenderIdentificationNumber	X			
2.226 - 2.230		X		
2.231 Serviceindicator	X			



Reference	C	N	P	Comments
2.232 - 2.234		X		
2.235 ServingCellID	X			
2.236 - 2.238		X		
2.239 SignalingMessageEncryptionReport	X			
2.240 SignalQuality		X		
2.241 - 2.254	X			
2.255 SMS_OriginationRestriction		X		
2.256 SMS_TeleserviceIdentifier	X			
2.257 - 2.263		X		
2.264 SSDUpdateReport	X			
2.265 - 2.266		X		
2.267 - 2.270	X			
2.271 - 2.282		X		
2.283 TDMAServiceCode	X			
2.284 - 2.286		X		
2.287 - 2.291	X			
2.292 TerminationTreatment		X		
2.293 TerminationTriggers	X			
2.294 TimeDateOffset		X		
2.295 - 2.299	X			
2.300 TrunkStatus		X		
2.301 UniqueChallengeReport	X			
2.302 - 2.307		X		
2.308 - 2.311	X			





3 Notes and comments

Note 1	Only the MC is supported
Note 2	Only MC related interactions are implemented, i.e messages received or sent by the MC or MCs
Note 3	Problems that should be detected by TCAP are handled by TCAP
Note 4	Only operation specifiers for implemented operations are recognized by the ANSI-41 MAP layer.
Note 5	Only implemented parameter specifiers in each operation are recognized by the ANSI-41 MAP layer.
Note 6	The Operation Code Identifier is coded as Private TCAP and not as SET[NATIONAL 18]
Note 7	All TCAP INVOKE (LAST) parameters are recognized. No TCAP RETURN RESULT parameters are recognized.
Note 8	All TCAP INVOKE (LAST) parameters are recognized. Only the SystemMyTypeCode, AuthorizationDenied, DeniedAuthorizationPeriod, the Digits(destination) and the profile parameters specified under Note 9 Page 33 are recognized in the TCAP RETURN RESULT
Note 9	Only the AuthenticationCapability, OriginationIndicator, OriginationTriggers, RestrictionDigits and Termination-RestrictionCode are recognized of the Profile parameters.
Note 10	Only OTAF related interactions are implemented, that is messages received or sent by the OTAF or OTAFs
Note 11	Only the OTAF is supported.
Note 12	All TCAP INVOKE (LAST) parameters are recognized. Only the AccessDeniedReason, ActionCode, AnnouncementList, Digits(Dialed), RoutingDigits and TerminationList parameters are recognized in the TCAP RETURN RESULT.
Note 13	May be included by the application in the TerminationList parameter in the OriginationRequest TCAP RETURN RESULT. The parameter(s) may also be sent transparently through the ANSI-41 MAP layer, see Note 22 Page 34
Note 14	Only the MC and OTAF are supported



Note 15	Only the responding FE is supported.
Note 16	Supported as incoming operation only.
Note 17	Supported as outgoing operation only.
Note 18	Supported both as incoming and outgoing operation.
Note 19	Only the Digits, ElectronicSerialNumber, MSID, BillingID, MSCID, PC_SSN and TransactionCapabilities parameter are recognized in the TCAP INVOKE (LAST). Only the FeatureResult, AccessDeniedReason and Digits are recognized in the TCAP RETURN RESULT.
Note 20	Only BillingId, Digits (Destination), ElectronicSerialNumber, MobileIdentificationNumber (MSID), SystemMyTypeCode and SenderIdentificationNumber are recognized in the TCAP INVOKE (LAST).
Note 21	Only BillingId, ElectronicSerialNumber, MobileStationIdentity (MSID), MSCID, SystemMyTypeCode, PC_SSN and SenderIdentificationNumber are recognized in the TCAP INVOKE (LAST). The MSCID, AccessDeniedReason and Digits parameters are recognized in the TCAP RETURN RESULT.
Note 22	Only recognized parameters are verified and checked by the ANSI-41 MAP. If unrecognized parameters are received they are passed transparently through the ANSI-41 MAP protocol layer to the application.
Note 23	Additional parameters to those recognized by the ANSI-41 MAP may be sent for outgoing operations in TCAP INVOKE(LAST) and for incoming operations in the TCAP RETURN RESULT. Additional parameters are the responsibility of the application and are sent transparently through the ANSI-41 MAP, hence no verification of these parameters are provided.
Note 24	ANSI-41 MAP protocol layer provide support for this functionality but is dependent of the underlaying layers implementation, that is SCCP and MTPL3.
Note 25	Parameters that are under the column N (Not compliant) can optionally be sent and received transparently, through the ANSI-41 MAP, for each implemented operation. No verification of these parameters are provided.
Note 26	Maximum supported length is 20 octets (40 digits).
Note 27	Only support for NCAS Pull of position information.



Note 28	Interface between ESME and MPC.
Note 29	Parameters and parameter values stated in Reference [5]
Note 30	Only BillingId, Digits , MSCID, SystemMyTypeCode, CallingPartyNumberDigits1, MSCIdentificationNumber, PC_SSN, RedirectingNumberDigits, TerminationAccessType and TransactionCapability are recognized in the TCAP INVOKE (LAST). The ElectronicSerialNumber, MobileIdentificationNumber, MSCID, AccessDeniedReason, AnnouncementList, CallingPartyNumberString1, Digits (Carrier and Destination), DMH_RedirectionIndicator, PC_SSN and TerminationList parameters are recognized in the TCAP RETURN RESULT.
Note 31	Operations and operation parameters stated in Reference [5]
Note 32	RedirectingPartyName and ServiceId support in LocationRequest
Note 33	GlobalTitle, TriggerAddressList, TriggerCapability, TriggerList, TriggerType, WINCapability, WINOperationCapability and WINTriggerList are support in LocationRequest.
Note 34	DMH_ServiceId support in LocationRequest
Note 35	Parameters and parameter values stated in Reference [12]
Note 36	Only Digits (Dialed), ESN, MSID, BillingID(Originating), MSCID (Serving), PC_SSN, TransactionCapability are recognized in TCAP INVOKE(LAST). The FeatureResult, AccessDeniedReason, Digits (Dialed or Destination) parameters are recognized in TCAP RETURN RESULT.
Note 37	Only ESN, MSID, CallHistoryCount, DeregistrationType, LocationAreaID, SenderInformationNumber, SMS_MessageWaitingIndicator are recognized in TCAP INVOKE(LAST).
Note 38	All parameters are recognized in TCAP INVOKE(LAST). The AKeyProtocolVersion, AuthenticationResponseBaseStation, BaseStationPartialKey, DenyAccess, ModulusValue, OTASP_ResultCode, PrimitiveValue, SignalingMessageEncryptionReport, SSDUpdateReport, UniqueChallengeReport, VoicePrivacyReport parameters are recognized in TCAP RETURN RESULT.



- Note 39** Only BillingID(Originating), Digits(Destination), ESN, MSID, SystemMyTypeCode(Originating MSC), SenderIdentificationNumber are recognized in TCAP INVOKE(LAST).
- Note 40** All parameters are recognized in TCAP INVOKE(LAST). None parameters are recognized in TCAP RETURN RESULT.
- Note 41** Only ESN, MSID, MSCID(Serving MSC), QualificationInformationCode, SystemMyTypeCode, AvailabilityType, BorderCellAccess, ControlChannelData, ExtendedMSCID (VLR), LocationAreaID, PC_SSN (Serving MSC or VLR), ReceivedSignalQuality, ReportType, are recognized in TCAP INVOKE(LAST). The SystemMyTypeCode (VLR or HLR), AuthorizationDenied, DeniedAuthorizationPeriod, Digits(Destination), AuthenticationCapability, OriginationIndicator, OriginatingTriggers, RestrictionDigits, TerminationRestrictionCode, MSID, AuthorizationPeriod parameters are recognized in TCAP RETURN RESULT.
- Note 42** Only BillingID(Originating), ESN, MSID, MSCID(Originating MSC), SystemMyTypeCode(Originating MSC), Mobile DirectoryNumber, PC_SSN, SenderIdentificationNumber are recognized in TCAP INVOKE(LAST). The MSCID, AccessDeniedReason, Digits (Destination) parameters are recognized in TCAP RETURN RESULT.
- Note 43** Only ESN, MSID, SMS_AccessDeniedReason, SMS_Address, SMS_TeleserviceIdentifier are recognized in TCAP INVOKE(LAST). All the parameters are recognized in TCAP RETURN RESULT.
- Note 44** All the parameters are recognized in TCAP INVOKE (LAST). The ESN, MSID, SMS_AccessDeniedReason, SMS_Address, SMS_CauseCode parameters are recognized in TCAP RETURN RESULT.



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ANSI Standards:

- [1] Cellular Radiotelecommunications Intersystem Operations: Functional Overview, ANSI-41.1-D, December 1997
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- [3] Cellular Radiotelecommunications Intersystem Operations: Automatic Roaming Informations Flow, ANSI-41.3-D, December 1997
- [4] Cellular Radiotelecommunications Intersystem Operations: OA & M Information Flows and Procedures, ANSI-41.4-D, December 1997
- [5] Cellular Radiotelecommunications Intersystem Operations: Signaling Protocols, ANSI-41.5-D, December 1997
- [6] Cellular Radiotelecommunications Intersystem Operations: Signaling Procedures, ANSI-41.6-D, December 1997
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- [11] Wireless Name Feature Description, TR-45, IS-764 (PN-4103), June 1998
- [12] WIN TIA/EIA-41-C Modifications , TR-45, IS-771 (PN-3661), December 1998
- [13] Wireless Intelligent Network Capabilities for Pre-Paid Charging (WIN Phase 2 part 1), TR-45, IS-826 (PN-4287), Pre-Published, May 2000
- [14] Enhancements for MDN based Message Centres, TR45.2, IS-841, September 2000

TDMA Forum:

- [15] Interim Over-the-Air-Activation specification from TDMA Forum, dated December 24, 1996, version 1.1

3GPP2 standards:



- [16] MOBILE APPLICATION PART (MAP) - Operation Signaling Protocols,
X.S0004-540-E, dated July, 2007, version 2.0
- [17] MOBILE APPLICATION PART (MAP) - Parameters Signaling Protocols,
X.S0004-550-E, dated January 2010, version 4.0