



Technical Document

ENHANCED OPERATOR NAME SERVICE

TEST SPECIFICATION

EONS

Document Number:	
Version:	0.2
Status:	Draft
Approval Authority:	
Creation Date:	
Last changed:	2015-Mar-08 by XGUTTEFE
File Name:	aci_eons.doc

Important Notice

Texas Instruments Incorporated and/or its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products, software and services at any time and to discontinue any product, software or service without notice. Customers should obtain the latest relevant information during product design and before placing orders and should verify that such information is current and complete.

All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment. TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI products, software and/or services. To minimize the risks associated with customer products and applications, customers should provide adequate design, testing and operating safeguards.

Any access to and/or use of TI software described in this document is subject to Customers entering into formal license agreements and payment of associated license fees. TI software may solely be used and/or copied subject to and strictly in accordance with all the terms of such license agreements.

Customer acknowledges and agrees that TI products and/or software may be based on or implement industry recognized standards and that certain third parties may claim intellectual property rights therein. The supply of products and/or the licensing of software does not convey a license from TI to any third party intellectual property rights and TI expressly disclaims liability for infringement of third party intellectual property rights.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products, software or services are used.

Information published by TI regarding third-party products, software or services does not constitute a license from TI to use such products, software or services or a warranty, endorsement thereof or statement regarding their availability. Use of such information, products, software or services may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

No part of this document may be reproduced or transmitted in any form or by any means, electronically or mechanically, including photocopying and recording, for any purpose without the express written permission of TI.

Change History

Date	Changed by	Approved by	Version	Status	Notes
	Morten Nyrup Christensen		0.1		1
2003-May-12	XGUTTEFE		0.2	Draft	

Notes:

1. Initial version

Table of Contents

1.1	Terms	4
2	Overview	4
3	Parameters	4
4	TEST CASES	10
4.1	Routing	10
4.1.1	ACI_EONS001: Setup the Routing and the PCO view for the ACI test, and set ACI to transparent mode	10
4.1.2	ACI_EONS002: MS_START_UP	11
4.1.3	ACI_EONS003: Location update, lac unchanged (GSM)	14
4.1.4	ACI_EONS004: GSM Location Update, lac changed	14
4.1.5	ACI_EONS005: Manual network selection (GPRS)	15
4.1.6	ACI_EONS007: Operator_Name_query	17
4.1.7	ACI_EONS008: ONLY PNN	18
4.1.8	ACI_EONS009: Files Update PNN	21
4.1.9	ACI_EONS010: Files Update OPL	21
4.1.10	ACI_EONS011: Power On	22
4.1.11	ACI_EONS012: Enable COPS registration status	23
4.1.12	ACI_EONS013: MS_START_UP1	23
4.1.13	ACI_EONS015: Automatic registration (GPRS automatic attach)	27
4.1.14	ACI_EONS016: Manual network selection	29
	Appendices	30
A.	Acronyms	30
B.	Glossary	30

List of Figures and Tables

List of References

- [ISO 9000:2000] International Organization for Standardization. Quality management systems - Fundamentals and vocabulary. December 2000

1.1 Terms

Entity:	Program which executes the functions of a layer
Message:	A message is a data unit which is transferred between the entities of the same layer (peer-to-peer) of the mobile and infrastructure side. Message is used as a synonym to protocol data unit (PDU). A message may contain several information elements.
Primitive:	A primitive is a data unit which is transferred between layers on one component (mobile station or infrastructure). The primitive has an operation code which identifies the primitive and its parameters.
Service Access Point	A Service Access Point is a data interface between two layers on one component (mobile station or infrastructure).

2 Overview

3 Parameters

DECLARATION (S_PLMN_262_01)
DECLARATION (DATA_PNN_LONG_SHORT)
DECLARATION (DATA_PNN_LONG)
DECLARATION (DATA_SDN000)
DECLARATION (F_MCC_262)
DECLARATION (F_MNC_01F)
DECLARATION (SIM_SERV_ABSDN_NOSTK)
DECLARATION (A_AD_FIELD_CI_DISABLED)
DECLARATION (A_AD_FIELD_CI_ENABLED)
DECLARATION (F_PLMN_LST)
DECLARATION (PLMN_LST_1)
DECLARATION (PLMN_LST_2)
DECLARATION (PLMN_LST_3)
DECLARATION (PLMN_LST_4)
DECLARATION (PLMN_LST_5)
DECLARATION (EMPTY_PLMN_LST)
DECLARATION (MCC_PLMN_LST_1)
DECLARATION (MCC_PLMN_LST_2)
DECLARATION (MCC_PLMN_LST_3)
DECLARATION (MCC_PLMN_LST_4)
DECLARATION (MCC_PLMN_LST_5)
DECLARATION (MNC_PLMN_LST_1)
DECLARATION (MNC_PLMN_LST_2)
DECLARATION (MNC_PLMN_LST_3)
DECLARATION (MNC_PLMN_LST_4)
DECLARATION (MNC_PLMN_LST_5)
DECLARATION (FILE_LIST_MODE_211)
DECLARATION (DATA_SDN119)
DECLARATION (DATA_SDN911)
DECLARATION (OPL_DATA1)
DECLARATION (OPL_DATA2)
DECLARATION (OPL_DATA3)
DECLARATION (ONLY_PNN)
DECLARATION (A_ECC_FIELD)
DECLARATION (FILE_LIST_MODE_OPL)
DECLARATION (FILE_LIST_MODE_PNN)
DECLARATION (FL_MODE_EONS_NR)
DECLARATION (PLMN_1)
DECLARATION (MCC_1)
DECLARATION (MNC_1)
DECLARATION (FRB_PLMN_LST)
DECLARATION (RXL_PLMN_LST)

```
DECLARATION(GPRS_STATUS_LST)
DECLARATION(PLMN_LST)
DECLARATION(LAC_LIST)
DECLARATION(IMSI_FIELD_DATA)
DECLARATION(IMSI_E_PLUS)
/*Command:   +CFUN
              set phone functionality*/
STRING(C_PLUS_CFUN_FULL, "AT+CFUN=1" )
STRING(C_PLUS_COPS_QUE, "AT+COPS?" )
STRING(M_PLUS_COPS_AUT_LNG_26201, "+COPS: 0,0,\"T-Mobile D\"" )
STRING(C_PLUS_COPS_REG, "AT+COPS=0,0" )
STRING(C_COPS_0, "AT+COPS=0\r")
STRING(M_OK, "OK" )
STRING(C_PLUS_COPS_TST, "AT+COPS=?" )
STRING(M_PLUS_CREG_SE T, "AT+CREG=1" )
STRING(M_PLUS_CREG_REGISTERED_ROAM, "+CREG: 5")
STRING(C_PLUS_COPS_MAN, "AT+COPS=1,0,\"howdy\"" )
```

```
LONG VAL_T3312 3240000                                VAL_T3314                                44000
```

```
SHORT NUM_4800 4800
SHORT NUM_2400 2400
SHORT NUM_1000 1000
```

```
/* TML – to match PCM */
SHORT LAC_256 256
SHORT CELL_ID_256 256
```

```
SHORT FL_MODE_211_NR                                8
SHORT FL_MODE_EONS_NR                               1
```

```
BYTE NUM_0 0
BYTE NUM_1 1
BYTE NUM_2 2
BYTE NUM_4 4
BYTE NUM_3 3
BYTE NUM_9 9
BYTE NUM_12 12
```

```
BYTE MAX_DATAS 0xFF
```

```
BYTE LDATA_SDN 34
BYTE LDATA_PNN 21
BYTE LDATA_OPL 8
```

```
BEGINARRAY (RXL_PLMN_LST, 7)
           0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00
ENDARRAY
```

```
BEGINARRAY (GPRS_STATUS_LST, GMMREG_MAX_PLMN_ID)
           GMMREG_GPRS_GSM,
           GMMREG_GPRS_GSM,
           GMMREG_GPRS_GSM,
           GMMREG_GPRS_GSM,
           GMMREG_GPRS_GSM,
```

```
GMMREG_GPRS_GSM,
GMMREG_GPRS_GSM,
GMMREG_GPRS_GSM,
GMMREG_GPRS_GSM,
GMMREG_GPRS_GSM,
GMMREG_GPRS_GSM,
GMMREG_GPRS_GSM
ENDARRAY

BEGIN_PSTRUCT_ARRAY (PLMN_LST, GMMREG_MAX_PLMN_ID)
    PLMN_LST_1, PLMN_LST_2, PLMN_LST_3, PLMN_LST_1, PLMN_LST_2,
    PLMN_LST_3, PLMN_LST_1, PLMN_LST_2,
    PLMN_LST_3, PLMN_LST_1, PLMN_LST_2, PLMN_LST_4
ENDARRAY

BEGINARRAY (FRB_PLMN_LST, 7)
    0x00, 0x00, 0x00, 0x01, 0x00, 0x00, 0x00
ENDARRAY

BEGIN_PSTRUCT ("plmn", S_PLMN_262_01)
    SET_COMP ("v_plmn",          NUM_1)
    SET_COMP ("mcc",             F_MCC_262)
    SET_COMP ("mnc",             F_MNC_01F)
ENDSTRUCT

SHORT LAC1 0x0100
SHORT LAC2 0x0100
SHORT LAC3 0x0100
SHORT LAC4 0x0100
SHORT LAC5 0x0100
SHORT LAC6 0x0100
SHORT LAC7 0x0100
SHORT LAC8 0x0100
SHORT LAC9 0x0100
SHORT LAC10 0x0100
SHORT LAC11 0x0100
SHORT LAC12 0x0100

BEGINARRAY (LAC_LIST, 24)
    0x00,0x01,
    0x00,0x01
ENDARRAY

BEGINARRAY (DATA_SDN000, 34) 0x48, 0x65, 0x69, 0x65, 0x72, 0x2C, 0x20, 0x4D, 0x61, 0x78,
    0xFF, 0xFF,
    0x08,
    0x81,
    0x00, 0xF0, 0xFF, 0xFF
```

ENDARRAY

/* IEI for long name used (0x43) – name: "howdy"*/

BEGINARRAY(DATA_PNN_LONG, 10) 0x43, 0x06, 0x00, 0x68, 0x6F, 0x77, 0x64, 0x79, 0x4D, 0x61,
0x78

ENDARRAY

/* IEI for long name (0x43) – name: "howdy" ; short name (0x45): "howdy1"*/

BEGINARRAY(DATA_PNN_LONG_SHORT, 21) 0x43, 0x06, 0x00, 0x68, 0x6F, 0x77, 0x64, 0x79,
0x45, 0x07, 0x00, 0x68, 0x6F, 0x77, 0x64, 0x79, 0x31

ENDARRAY

/* Init to PCM startup values (LAC) */

BEGINARRAY(OPL_DATA1, 8) 0x62, 0xF2, 0x10, 0x01, 0x00, 0x01, 0x00, 0x01 ENDARRAY

/* Init to PCM startup values (LAC) */

BEGINARRAY(OPL_DATA2, 8) 0x62, 0xF2, 0x10, 0x01, 0x00, 0x01, 0x00, 0x01 ENDARRAY

/* Init to PCM startup values (LAC) */

BEGINARRAY(OPL_DATA3, 8) 0x62, 0xF2, 0x10, 0x01, 0x00, 0x01, 0x00, 0x01 ENDARRAY

BEGINARRAY (F_MCC_262, 3) 0x02, 0x06, 0x02 ENDARRAY

BEGINARRAY (F_MNC_01F, 3) 0x00, 0x01, 0x0F ENDARRAY

BEGINARRAY (SIM_SERV_ABSDN_NOSTK, 13) //ADN BDN SDN no STK CCcheck

0xCF,	//	1100 1111
0x3C,	//	0011 1100
0x3C,	//	0011 1100
0x03,	//	0000 0011
0xFF,	//	1111 1111
0x00,	//	0000 0000
0x00,	//	0000 0000
0x30,	//	0011 0000
0x00,	//	0000 0000
0xF0	//	1111 0000 PNN and OPL

ENDARRAY

BEGINARRAY (ONLY_PNN, 13) //

0xCF,	//	1100 1111
0x3C,	//	0011 1100
0x3C,	//	0011 1100
0x03,	//	0000 0011
0xFF,	//	1111 1111
0x00,	//	0000 0000
0x00,	//	0000 0000
0x30,	//	0011 0000
0x00,	//	0000 0000
0x30	//	0011 0000 only PNN

ENDARRAY

```
/* EF AD field array , disable CI */  
BEGINARRAY_PART (A_AD_FIELD_CI_DISABLED,4) 0x00, 0x00, 0x00, 0x02 ENDARRAY
```

```
/* EF AD field array , enable CI */  
BEGINARRAY_PART (A_AD_FIELD_CI_ENABLED,4) 0x00, 0x00, 0x01, 0x02 ENDARRAY
```

```
BEGIN_PSTRUCT_ARRAY (F_PLMN_LST, 12)  
    PLMN_LST_1, PLMN_LST_2, PLMN_LST_3, PLMN_LST_4, PLMN_LST_5,  
    EMPTY_PLMN_LST, EMPTY_PLMN_LST, EMPTY_PLMN_LST,  
    EMPTY_PLMN_LST, EMPTY_PLMN_LST, EMPTY_PLMN_LST,  
    EMPTY_PLMN_LST  
ENDARRAY
```

```
BEGIN_PSTRUCT ("plmn", PLMN_LST_1)  
    SET_COMP ("v_plmn", 0x01)  
    SET_COMP ("mcc", MCC_PLMN_LST_1)  
    SET_COMP ("mnc", MNC_PLMN_LST_1)  
ENDSTRUCT
```

```
BEGINARRAY (MCC_PLMN_LST_1, 3) 0x02, 0x06, 0x02 ENDARRAY
```

```
BEGINARRAY (MNC_PLMN_LST_1, 3) 0x00, 0x01, 0x0F ENDARRAY
```

```
BEGIN_PSTRUCT ("plmn", PLMN_LST_2)  
    SET_COMP ("v_plmn", 0x01)  
    SET_COMP ("mcc", MCC_PLMN_LST_2)  
    SET_COMP ("mnc", MNC_PLMN_LST_2)  
ENDSTRUCT
```

```
BEGINARRAY (MCC_PLMN_LST_2, 3) 0x02, 0x06, 0x02 ENDARRAY  
BEGINARRAY (MNC_PLMN_LST_2, 3) 0x00, 0x02, 0x0F ENDARRAY
```

```
BEGIN_PSTRUCT ("plmn", PLMN_LST_3)  
    SET_COMP ("v_plmn", 0x01)  
    SET_COMP ("mcc", MCC_PLMN_LST_3)  
    SET_COMP ("mnc", MNC_PLMN_LST_3)  
ENDSTRUCT
```

```
BEGINARRAY (MCC_PLMN_LST_3, 3) 0x02, 0x06, 0x02 ENDARRAY
```

```
BEGINARRAY (MNC_PLMN_LST_3, 3) 0x00, 0x03, 0x0F ENDARRAY
```

```
BEGIN_PSTRUCT ("plmn", PLMN_LST_4)  
    SET_COMP ("v_plmn", 0xFF)  
    SET_COMP ("mcc", MCC_PLMN_LST_4)  
    SET_COMP ("mnc", MNC_PLMN_LST_4)  
ENDSTRUCT
```

```
BEGINARRAY (MCC_PLMN_LST_4, 3) 0x00, 0x00, 0x00 ENDARRAY
```

```
BEGINARRAY (MNC_PLMN_LST_4, 2) 0x00, 0x00 ENDARRAY
```

```
BEGIN_PSTRUCT ("plmn", PLMN_LST_5)  
    SET_COMP ("v_plmn", 0xFF)  
    SET_COMP ("mcc", MCC_PLMN_LST_5)  
    SET_COMP ("mnc", MNC_PLMN_LST_5)  
ENDSTRUCT
```

```
BEGIN_PSTRUCT ("plmn", EMPTY_PLMN_LST)
    SET_COMP ("v_plmn", 0xFF)
    SKIP_COMP ("mcc")
    SKIP_COMP ("mnc")
ENDSTRUCT

BEGINARRAY_PART (FILE_LIST_MODE_211, 14)
    0x05, 0x2F, 0x3A, 0x6F, 0x4A, 0x6F, 0xAD, 0x6F,
    0x3C, 0x6F, 0x40, 0x6F, 0x48, 0x6F, 0x05, 0x6F
ENDARRAY

BEGINARRAY (DATA_SDN119, 34) 0x48, 0x65, 0x69, 0x65, 0x72, 0x2C, 0x20, 0x4D, 0x61, 0x78,
    0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF,
    0x08,
    0x81,
    0x11, 0xF9, 0xFF, 0xFF
ENDARRAY

BEGINARRAY (DATA_SDN911, 34) 0x48, 0x65, 0x69, 0x65, 0x72, 0x2C, 0x20, 0x4D, 0x61, 0x78,
    0xFF, 0xFF,
    0x08,
    0x81,
    0x19, 0xF1, 0xFF, 0xFF
ENDARRAY

BEGINARRAY_PART (FILE_LIST_MODE_OPL, 2)
    0xC6, 0x6F
ENDARRAY

BEGINARRAY_PART (FILE_LIST_MODE_PNN, 2)
    0xC5, 0x6F
ENDARRAY

BEGIN_PSTRUCT ("plmn", PLMN_1)
    SET_COMP ("v_plmn", V_PLMN_PRES)
    SET_COMP ("mcc", MCC_1)
    SET_COMP ("mnc", MNC_1)
ENDSTRUCT

/* --- international mobil subscriber identity --- */
BEGINARRAY (IMSI_FIELD_DATA, 6)
    0x02, 0x06, 0x02,
    0x00, 0x01, 0x0F
ENDARRAY

/* --- IMSI --- */
BEGIN_PSTRUCT ("imsi_field", IMSI_E_PLUS)
    SET_COMP ("c_field", 0x06)
    SET_COMP ("field", IMSI_FIELD_DATA)
ENDSTRUCT
```

4 TEST CASES

4.1 Routing

4.1.1 ACI_EONS001: Setup the Routing and the PCO view for the ACI test, and set ACI to transparent mode

Description:

Routings for the ACI tests are set.

Preamble:

None

APL	ACI	PS
COMMAND (TAP RESET)		
COMMAND (CC RESET)		
COMMAND (MM RESET)		
COMMAND (GMM RESET)		
COMMAND (SIM RESET)		
COMMAND (SS RESET)		
COMMAND (MMI RESET)		
COMMAND (SMS RESET)		
COMMAND (RR RESET)		
COMMAND (PL RESET)		
COMMAND (TAP REDIRECT CLEAR)		
COMMAND (CC REDIRECT CLEAR)		
COMMAND (MM REDIRECT CLEAR)		
COMMAND (GMM REDIRECT CLEAR)		
COMMAND (SIM REDIRECT CLEAR)		
COMMAND (SS REDIRECT CLEAR)		
COMMAND (MMI REDIRECT CLEAR)		
COMMAND (SMS REDIRECT CLEAR)		
COMMAND (RR REDIRECT CLEAR)		
COMMAND (PL REDIRECT CLEAR)		
COMMAND (MMI REDIRECT CC TAP)		
COMMAND (MMI REDIRECT MM TAP)		
COMMAND (MMI REDIRECT GMM TAP)		
COMMAND (MMI REDIRECT SIM TAP)		
COMMAND (MMI REDIRECT SS TAP)		
COMMAND (MMI REDIRECT MMI TAP)		
COMMAND (MMI REDIRECT SMS TAP)		
COMMAND (MMI REDIRECT T30 TAP)		
COMMAND (MMI REDIRECT L2R TAP)		
COMMAND (MMI REDIRECT RA TAP)		
COMMAND (MMI REDIRECT RR TAP)		
COMMAND (PL REDIRECT MMI NULL)		
COMMAND (TAP REDIRECT TAP MMI)		

Parametrization:

Primitive	Parameter	Value
History:	14.12.98	AK
		Initial

4.1.2 ACI_EONS002: MS_START_UP

Description:

After ACI has received MNSMS_REPORT_IND ACI will read some parameters from SIM concerning SMS and after that it will call the function cmhSMS_ready

Preamble: ACI_EONS011

Variants: <A>....

APL	ACI	PS
(1)	SIM_ACTIVATE_CNF	
	* <===== *	
(2)	SIM_MMI_INSERT_IND	
	* <===== *	
(3)	SIM_READ_REQ	
	* =====> *	
(4)	SIM_READ_CNF	
	* <===== *	
(5)	SIM_READ_REQ	
	* =====> *	
(6)	SIM_READ_CNF	
	* <===== *	
(7)	ACI_CMD_IND	
	(msg: OK)	
	* <===== *	
(8)	MNSMS_REPORT_IND	
	* <===== *	
(9)	SIM_READ_RECORD_REQ	
	* =====> *	
(10)	SIM_READ_RECORD_CNF	
	* <===== *	
(11)	SIM_READ_RECORD_REQ	
	* =====> *	
(12)	SIM_READ_RECORD_CNF	
	* <===== *	
(13)	SIM_READ_RECORD_REQ	
	* =====> *	
(14)	SIM_READ_RECORD_CNF	
	* <===== *	
(15)	SIM_READ_RECORD_REQ	
	* =====> *	
(16)	SIM_READ_RECORD_CNF	
	* <===== *	
(17)	SIM_READ_RECORD_REQ	
	* =====> *	
(18)	SIM_READ_RECORD_CNF	
	* <===== *	
(19)	SIM_READ_RECORD_REQ	
	* =====> *	
(20)	SIM_READ_RECORD_CNF	

		record length	NUM_1 MAX_DATAS
(9)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_OPL SIM_NO_ERROR NUM_1 NUM_1 LDATA_OPL OPL_DATA1
(10)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_ADN NUM_1 MAX_DATAS
(11)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_ADN SIM_NO_ERROR NUM_1 NUM_1 LDATA_SDN DATA_SDN000
(12)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_BDN NUM_1 MAX_DATAS
(13)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_BDN SIM_NO_ERROR NUM_1 NUM_1 LDATA_SDN DATA_SDN000
(14)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_SDN NUM_1 MAX_DATAS
(15)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_SDN SIM_NO_ERROR NUM_1 NUM_3 LDATA_SDN DATA_SDN000
(16)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_SDN NUM_2 LDATA_SDN
(17)	SIM_READ_RECORD_CNF	datafield cause record max_record	SIM_SDN SIM_NO_ERROR NUM_2 NUM_3

APL	ACI	PS
(1)	MMR_REG_CNF	
(2)	SIM_READ_RECORD_REQ	
(3)	SIM_READ_RECORD_CNF	
(4)	ACI_CMD_IND (+CREG: 5)	

Parametrization:

Primitive	Parameter	Value
(1) MMR_REG_CNF	plmn	S_PLMN_262_01
	lac	NUM_2400
	cid	NUM_1000
(2) SIM_READ_RECORD_REQ	source	SRC_MMI
	datafield	SIM_PNN
	record	NUM_1
	length	MAX_DATAS
(3) SIM_READ_RECORD_CNF	datafield	SIM_PNN
	cause	SIM_NO_ERROR
	record	NUM_1
	max_record	NUM_1
	length	LDATA_PNN
	linear_data	DATA_PNN_LONG
(4) ACI_CMD_IND	cmd_len	8
	cmd_seq	
	M_PLUS_CREG_REGISTERED_ROAM	

History: 13.01.2003 MNC Initial

4.1.5 ACI_EONS005:Manual network selection (GPRS)

Description:

ACI request for a PLMN search towards RR. Scans all frequencies and sends a list with found PLMN's to MM. The PLMN list is then send to ACI.

Preamble:

ACI_EONS015

Variants: <A>....

APL	ACI	PS
(1)	ACI_CMD_REQ (cmd: AT+COPS=?)	
(2)	GMMREG_PLMN_MODE_REQ	

```

(3) | | | *=====> *
    | | | | GMMREG_NET_REQ |
    | | | *=====> *
(4) | | ACI_CMD_IND | |
    | | (msg: +COPS: ...) | |
    | *<===== *
(5) | | ACI_CMD_IND | |
    | | (msg: OK) | |
    | *<===== *
(6) | | | GMMREG_PLMN_IND | |
    | | *<===== *
(7) | | | SIM_READ_RECORD_REQ | |
    | | *=====> *
(8) | | | SIM_READ_RECORD_CNF | |
    | | *<===== *
(9) | | | GMMREG_PLMN_MODE_REQ | |
    | | *=====> *
(10) | | ACI_CMD_IND | |
    | | (msg: +COPS: ...) | |
    | *<===== *
(11) | | ACI_CMD_IND | |
    | | (msg: OK) | |
    | *<===== *
    | | | | |

```

Parametrization:

Primitive	Parameter	Value
(1) ACI_CMD_REQ	cmd_src	CMD_SRC_EXT
	cmd_len	
	NUM_ELEMENTS(C_PLUS_COPS_TST)	
	cmd_seq	C_PLUS_COPS_TST
(2) GMMREG_PLMN_MODE_REQ	net_selection_mode	1
(3) GMMREG_NET_REQ		
(4) ACI_CMD_IND	cmd_len	NOT_USED
	cmd_seq	NOT_USED
(5) ACI_CMD_IND	cmd_len	NOT_USED
	cmd_seq	NOT_USED
(6) GMMREG_PLMN_IND	cause	MMCS_SUCCESS
	plmn	PLMN_LST
	forb_ind	FRB_PLMN_LST
	lac_list	LAC_LIST
	rxlevel	RXL_PLMN_LST
	gprs_status	GPRS_STATUS_LST
(7) SIM_READ_RECORD_REQ	source	SRC_MMI
	datafield	SIM_PNN
	record	NUM_1
	length	MAX_DATAS

(8)	SIM_READ_RECORD_CNF	datafield cause record max_record length <A> 	SIM_PNN SIM_NO_ERROR NUM_1 NUM_1 LDATA_PNN DATA_PNN_LONG DATA_PNN_LONG_SHORT
(9)	GMMREG_PLMN_MODE_REQ	net_selection_mode	MODE_AUTO
(10)		ACI_CMD_IND cmd_len cmd_seq	NOT_USED NOT_USED
(11)		ACI_CMD_IND cmd_len cmd_seq	NOT_USED NOT_USED

History: 14.01.2003 MNC Initial

4.1.6 ACI_EONS007: Operator_Name_query

Description:

Aci source invokes a query on operator name currently selected

Preamble:

ACI_EONS011

```

(1) |          ACI_CMD_REQ          |
    |          (cmd: +COPS?)      |
    * =====> *
(2) |          ACI_CMD_IND          |
    |          (msg: +COPS:0,0,"...") |
    * <===== *
    |          |                  |

```

Parametrization:

<u>Primitive</u>	<u>Parameter</u>	<u>Value</u>
(2) ACI_CMD_REQ cmd_src cmd_len cmd_seq	CMD_SRC_EXT NUM_ELEMENTS(C_PLUS_COPS_QUE) C_PLUS_COPS_QUE	
(3) ACI_CMD_IND cmd_len cmd_seq	NOT_USED NOT_USED	

History: 13.01.2003 MNC Initial

4.1.7 ACI_EONS008: ONLY PNN

Description:

MS starts up no OPL only PNN is active

Preamble: ACI_EONS011

APL	ACI	PS
(1)	SIM_ACTIVATE_CNF	
(2)	SIM_MMI_INSERT_IND	
(3)	SIM_READ_REQ	
(4)	SIM_READ_CNF	
(5)	SIM_READ_REQ	
(6)	SIM_READ_CNF	
(7)	ACI_CMD_IND (msg: OK)	
(8)	MNSMS_REPORT_IND	
(9)	SIM_READ_RECORD_REQ	
(10)	SIM_READ_RECORD_CNF	
(11)	SIM_READ_RECORD_REQ	
(12)	SIM_READ_RECORD_CNF	
(13)	SIM_READ_RECORD_REQ	
(14)	SIM_READ_RECORD_CNF	
(15)	SIM_READ_RECORD_REQ	
(16)	SIM_READ_RECORD_CNF	
(17)	SIM_READ_RECORD_REQ	
(18)	SIM_READ_RECORD_CNF	

Parametrization:

Primitive	Parameter	Value
(5) SIM_ACTIVATE_CNF	cause	SIM_NO_ERROR
	pin_cnt	NUM_3
	puk_cnt	NUM_9

	pin2_cnt	NUM_3
	puk2_cnt	NUM_9
	ec_code	NOT_USED
	pref_lang	NOT_USED
(6)	SIM_MMI_INSERT_IND	
	func	SIM_ADN_BDN_ENABLED
	sim_serv	ONLY_PNN
	imsi_field	IMSI_E_PLUS
	pref_plmn	NOT_USED
	phase	PHASE_2_SIM
	access_acm	NOT_USED
	access_acmmax	NOT_USED
	access_puct	NOT_USED
(7)	SIM_READ_REQ	
	source	SRC_MMI
	offset	NUM_0
	datafield	SIM_ECC
	length	NOT_PRESENT_8BIT
	max_length	NUM_0
(8)	SIM_READ_CNF	
	datafield	SIM_ECC
	cause	SIM_CAUSE_EF_INVALID
	length	NUM_0
	trans_data	NOT_USED
(9)	SIM_READ_REQ	
	source	SRC_MMI
	offset	NUM_0
	datafield	SIM_AD
	length	NOT_PRESENT_8BIT
	max_length	NUM_0
(10)	SIM_READ_CNF	
	datafield	SIM_AD
	cause	SIM_NO_ERROR
	length	NUM_4
	trans_data	A_AD_FIELD_CI_DISABLED
(11)	ACI_CMD_IND	
	cmd_len	NUM_ELEMENTS(M_OK)
	cmd_seq	M_OK
(12)	MNSMS_REPORT_IND	
	state	SMS_STATE_READY
(13)	SIM_READ_RECORD_REQ	
	source	SRC_MMI
	datafield	SIM_ADN
	record	NUM_1
	length	MAX_DATAS
(14)	SIM_READ_RECORD_CNF	
	datafield	SIM_ADN
	cause	SIM_NO_ERROR
	record	NUM_1
	max_record	NUM_1
	length	LDATA_SDN
	linear_data	DATA_SDN000

(15)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_BDN NUM_1 MAX_DATAS
(16)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_BDN SIM_NO_ERROR NUM_1 NUM_1 LDATA_SDN DATA_SDN000
(17)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_SDN NUM_1 MAX_DATAS
(18)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_SDN SIM_NO_ERROR NUM_1 NUM_3 LDATA_SDN DATA_SDN000
(19)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_SDN NUM_2 LDATA_SDN
(20)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_SDN SIM_NO_ERROR NUM_2 NUM_3 LDATA_SDN DATA_SDN119
(21)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_SDN NUM_3 LDATA_SDN
(22)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_SDN SIM_NO_ERROR NUM_3 NUM_3 LDATA_SDN DATA_SDN911

History: 13.01.2003 MNC Initial

4.1.8 ACI_EONS009: Files Update PNN

Description:

Sim sends a SIM_FILE_UPDATE_IND to ACI to tell that the PNN file has been updated.

Preamble: ACI_EONS013

APL	ACI	PS
(1)	SIM_FILE_UPDATE_IND	
	* <=====*	
(2)	SIM_READ_RECORD_REQ	
	* =====>*	
(3)	SIM_READ_RECORD_CNF	
	* <=====*	
(4)	SIM_FILE_UPDATE_RES	
	* =====>*	

Parametrization:

Primitive	Parameter	Value
(1) SIM_FILE_UPDATE_IND	val_nr file_id	FL_MODE_EONS_NR FILE_LIST_MODE_PNN
(2) SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_PNN NUM_1 MAX_DATAS
(3) SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_PNN SIM_NO_ERROR NUM_1 NUM_1 LDATA_PNN DATA_PNN_LONG
(4) SIM_FILE_UPDATE_RES	source fu_rsc	SRC_MMI SIM_FU_SUCCESS

History: 14.01.2003 MNC Initial

4.1.9 ACI_EONS010: Files Update OPL

Description:

Sim sends a SIM_FILE_UPDATE_IND to ACI to tell that the OPL file has been updated.

Preamble: ACI_EONS013

APL	ACI	PS
(1)	SIM_FILE_UPDATE_IND	

```

(2) | | * <===== *
    | | | SIM_READ_RECORD_REQ |
    | | * =====> *
(3) | | | SIM_READ_RECORD_CNF |
    | | * =====> *
(4) | | | SIM_FILE_UPDATE_RES |
    | | * =====> *
    | | |
  
```

Parametrization:

Primitive	Parameter	Value
(2) SIM_FILE_UPDATE_IND	val_nr file_id	FL_MODE_EONS_NR FILE_LIST_MODE_OPL
(3) SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_OPL NUM_1 MAX_DATAS
(4) SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_OPL SIM_NO_ERROR NUM_1 NUM_1 LDATA_SDN DATA_SDN000
(5) SIM_FILE_UPDATE_RES	source fu_rsc	SRC_MMI SIM_FU_SUCCESS

History: 14.01.2003 MNC Initial

4.1.10 ACI_EONS011: Power On

Description: activate SIM card at power on

Preamble: ACI_EONS012

```

      APL                      ACI                      PS
(1) | | ACI_CMD_REQ           | |
    | | (cmd: +CFUN=1)       | |
    | | * =====> *       | |
(2) | | | SIM_ACTIVATE_REQ  | |
    | | * =====> *       | |
    | | |
  
```

Parametrization:

Primitive	Parameter	Value
(1) ACI_CMD_REQ	cmd_src cmd_len NUM_ELEMENTS(C_PLUS_CFUN_FULL) cmd_seq	1 C_PLUS_CFUN_FULL

(2) SIM_ACTIVATE_REQ

proc	NOT_USED
mml_pro_file	NOT_USED
stk_pro_file	NOT_USED

History: 10.08.98 ACI Initial

4.1.11 ACI_EONS012: Enable COPS registration status

Description:

re

Preamble:

```

ACI_EONS001
APL                               ACI                               PS
|                                 |                                 |
(1) |           ACI_CMD_REQ       |                                 |
    |           (cmd: +CREG=1)    |                                 |
    * <===== > *                |                                 |
(2) |           ACI_CMD_IND       |                                 |
    |           (msg: OK)         |                                 |
    * <===== *                |                                 |
|                                 |                                 |

```

Parametrization:

Primitive	Parameter	Value
(1) ACI_CMD_REQ	cmd_src	CMD_SRC_EXT
	cmd_len	
	NUM_ELEMENTS(M_PLUS_CREG_SET)	
	cmd_seq	M_PLUS_CREG_SET
(2) ACI_CMD_IND	cmd_len	NUM_ELEMENTS(M_OK)
	cmd_seq	M_OK

History: 15.01.03 MNC Initial

4.1.12 ACI_EONS013: MS_START_UP1

Description:

Preamble: ACI_EONS011

```

APL                               ACI                               PS
|                                 |                                 |
(1) |           SIM_ACTIVATE_CNF  |                                 |
    * <===== *                |                                 |
(2) |           SIM_MMI_INSERT_IND |                                 |
    * <===== *                |                                 |
(3) |           SIM_READ_REQ      |                                 |
    * <===== > *                |                                 |
(4) |           SIM_READ_CNF      |                                 |
    * <===== *                |                                 |

```

```

(5) | | | SIM_READ_REQ |
| | | *=====> *
(6) | | | SIM_READ_CNF |
| | | *<===== *
(7) | | ACI_CMD_IND |
| | (msg: OK) |
| *<===== *
(8) | | MNSMS_REPORT_IND |
| | *<===== *
(9) | | SIM_READ_RECORD_REQ |
| | *=====> *
(10) | | SIM_READ_RECORD_CNF |
| | *<===== *
(11) | | SIM_READ_RECORD_REQ |
| | *=====> *
(12) | | SIM_READ_RECORD_CNF |
| | *<===== *
(13) | | SIM_READ_RECORD_REQ |
| | *=====> *
(14) | | SIM_READ_RECORD_CNF |
| | *<===== *
(15) | | SIM_READ_RECORD_REQ |
| | *=====> *
(16) | | SIM_READ_RECORD_CNF |
| | *<===== *
(17) | | SIM_READ_RECORD_REQ |
| | *=====> *
(18) | | SIM_READ_RECORD_CNF |
| | *<===== *
(19) | | SIM_READ_RECORD_REQ |
| | *=====> *
(20) | | SIM_READ_RECORD_CNF |
| | *<===== *
(21) | | SIM_READ_RECORD_REQ |
| | *=====> *
(22) | | SIM_READ_RECORD_CNF |
| | *<===== *
(23) | | SIM_READ_RECORD_REQ |
| | *=====> *
(24) | | SIM_READ_RECORD_CNF |
| | *<===== *
(25) | | SIM_READ_RECORD_REQ |
| | *=====> *
(26) | | SIM_READ_RECORD_CNF |
| | *<===== *
| | | | |

```

Parametrization:

<u>Primitive</u>	<u>Parameter</u>	<u>Value</u>
(23) SIM_ACTIVATE_CNF	cause	SIM_NO_ERROR
	pin_cnt	NUM_3
	puk_cnt	NUM_9
	pin2_cnt	NUM_3
	puk2_cnt	NUM_9
	ec_code	NOT_USED
	pref_lang	NOT_USED

(24)	SIM_MMI_INSERT_IND	func sim_serv imsi_field pref_plmn phase access_acm access_acmmax access_puct	SIM_ADN_BDN_ENABLED SIM_SERV_ABSDN_NOSTK NOT_USED NOT_USED PHASE_2_SIM NOT_USED NOT_USED NOT_USED
(25)	SIM_READ_REQ	source offset datafield length max_length	SRC_MMI NUM_0 SIM_ECC NOT_PRESENT_8BIT NUM_0
(26)	SIM_READ_CNF	datafield cause length trans_data	SIM_ECC SIM_CAUSE_EF_INVALID NUM_0 NOT_USED
(27)	SIM_READ_REQ	source offset datafield length max_length	SRC_MMI NUM_0 SIM_AD NOT_PRESENT_8BIT NUM_0
(28)	SIM_READ_CNF	datafield cause length trans_data	SIM_AD SIM_NO_ERROR NUM_4 A_AD_FIELD_CI_ENABLED
(29)	ACI_CMD_IND	cmd_len cmd_seq	NUM_ELEMENTS(M_OK) M_OK
(30)	MNSMS_REPORT_IND	state	SMS_STATE_READY
(31)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_OPL NUM_1 MAX_DATAS
(32)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_OPL SIM_NO_ERROR NUM_1 NUM_4 LDATA_OPL OPL_DATA1
(33)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_ADN NUM_1 MAX_DATAS

(34)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_ADN SIM_NO_ERROR NUM_1 NUM_1 LDATA_SDN DATA_SDN000
(35)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_OPL NUM_2 MAX_DATAS
(36)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_OPL SIM_NO_ERROR NUM_2 NUM_4 LDATA_OPL OPL_DATA2
(37)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_BDN NUM_1 MAX_DATAS
(38)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_BDN SIM_NO_ERROR NUM_1 NUM_1 LDATA_SDN DATA_SDN000
(39)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_OPL NUM_3 MAX_DATAS
(40)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_OPL SIM_NO_ERROR NUM_3 NUM_4 LDATA_OPL OPL_DATA3
(41)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_SDN NUM_1 MAX_DATAS
(42)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_SDN SIM_NO_ERROR NUM_1 NUM_3 LDATA_SDN DATA_SDN000

(43)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_OPL NUM_4 MAX_DATAS
(44)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_OPL SIM_NO_ERROR NUM_4 NUM_4 LDATA_OPL OPL_DATA1
(45)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_SDN NUM_2 LDATA_SDN
(46)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_SDN SIM_NO_ERROR NUM_2 NUM_3 LDATA_SDN DATA_SDN119
(47)	SIM_READ_RECORD_REQ	source datafield record length	SRC_MMI SIM_SDN NUM_3 LDATA_SDN
(48)	SIM_READ_RECORD_CNF	datafield cause record max_record length linear_data	SIM_SDN SIM_NO_ERROR NUM_3 NUM_3 LDATA_SDN DATA_SDN119
History:		13.01.2003	MNC Initial

4.1.13 ACI_EONS015: Automatic registration (GPRS automatic attach)

Description:

ME is in full functionality state.

Preamble:

```

ACI_EONS013
  APL                               ACI                               PS
COMMAND (MMI CONFIG AUTO_ATTACH)
COMMAND (MMI CONFIG MAN_DETACH)
(1) |                               |                               |
    | ACI_CMD_REQ                   |                               |
    | (cmd: +COPS=0)                 |                               |
    * =====> *

```

```

(2) | | | GMMREG_PLMN_MODE_REQ |
    | | | *=====> *
(3) | | | GMMREG_ATTACH_REQ |
    | | | *=====> *
(4) | | | GMMREG_ATTACH_CNF |
    | | | *<===== *
(5) | | | GMMREG_PLMN_MODE_REQ |
    | | | *=====> *
(6) | | ACI_CMD_IND |
    | | (msg: OK) |
    | * <===== *
    | | |

```

Parametrization:

Primitive	Parameter	Value
(1) ACI_CMD_REQ	cmd_src	CMD_SRC_EXT
	cmd_len	10
	cmd_seq	C_COPS_0
(2) GMMREG_PLMN_MODE_REQ	net_selection_mode	GMMREG_NET_SEL_MODE_AUTO
(3) GMMREG_ATTACH_REQ	mobile_class	GMMREG_CLASS_BG
	attach_type	GMMREG_AT_COMB
	service_mode	SERVICE_MODE_FULL
	t3314_ready_val	VAL_T3314
	t3312_standby_rau_val	VAL_T3312
(4) GMMREG_ATTACH_CNF	attach_type	GMMREG_AT_COMB
	plmn	PLMN_1
	lac	NUM_1
	rac	NUM_1
	cid	NUM_1
	gprs_indicator	GMM_GPRS_SUPP_YES
	search_running	GMMREG_SEARCH_NOT_RUNNING
(5) GMMREG_PLMN_MODE_REQ	net_selection_mode	GMMREG_NET_SEL_MODE_AUTO
(6) ACI_CMD_IND	cmd_len	2
	cmd_seq	M_OK

History: 27-01-03 MNC Initial

4.1.14 ACI_EONS016: Manual network selection

Description:
 Aci source selects network

Preamble:
 ACI_EONS005A

```
(1) |          ACI_CMD_REQ          |
    | (cmd: AT+COPS=1,0,"howdy") |
    * =====> *
(2) |          ACI_CMD_IND          |
    | (msg: +COPS:1,0,"howdy") |
    * <===== *
    |                               |
```

Parametrization:

Primitive	Parameter	Value
(2) ACI_CMD_REQ	cmd_src	CMD_SRC_EXT
	cmd_len	NOT_USED
	cmd_seq	C_PLUS_COPS_MAN
(3) ACI_CMD_IND	cmd_len	17
	cmd_seq	NOT_USED

History: 13.01.2003 MNC Initial

Appendices

A. Acronyms

DS-WCDMA Direct Sequence/Spread Wideband Code Division Multiple Access

B. Glossary

International Mobile Telecommunication 2000 (IMT-2000/ITU-2000) Formerly referred to as FPLMTS (Future Public Land-Mobile Telephone System), this is the ITU's specification/family of standards for 3G. This initiative provides a global infrastructure through both satellite and terrestrial systems, for fixed and mobile phone users. The family of standards is a framework comprising a mix/blend of systems providing global roaming. <URL: <http://www.imt-2000.org/>>