



CDMA EIR Requirements

CDG Document 212

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Contents

1. Introduction.....	1
1.1 Purpose	1
1.2 Scope	1
1.3 Reference Documents.....	1
1.4 Acronyms and Abbreviations	2
1.5 Categories of Requirements	2
1.6 Carrier Acceptance	2
1.7 Documentation	2
2. EIR Requirements.....	3
2.1 ME Requirements.....	3
2.2 RAN Requirements	3
2.3 MSC Requirements	3
2.4 VLR Requirements.....	4
2.5 EIR Requirements	4



Revision History

Date	Version	Description
1 July 2012	0.0	First draft
10 December 2012	1.0	Initial Release



1. Introduction

1.1 Purpose

The objective of this document is to provide detailed requirements for EIR (Equipment Identity Register). This network element maintains a database of device hardware IDs (MEID) and can determine if an MEID from a device is from a valid range and whether it is black-listed (e.g. stolen) or grey-listed (e.g. being monitored).

1.2 Scope

This document covers the minimum device requirements to enable the design of devices and network elements to support a cdma2000 EIR.

1.3 Reference Documents

The standard references in this section are based on the latest released version of the document at the time of publication of this document. The standard documents are written in a backward compatible manner and devices shall comply with the relevant sections of the latest revision as stated in this document.

3GPP2 reference documents can be found at
http://www.3gpp2.org/Public_html/specs/index.cfm.

Ref	Specification	Description
[1]	X.S0008	3GPP2 X.S0008-0 v4.0. MAP Support for the Mobile Equipment Identity (MEID). 2012.
[2]	C.S0005	3GPP2 C.S0005-E v3.0. Upper Layer (Layer 3) Signaling Standard for cdma2000 Spread Spectrum Systems. 2011.
[3]	A.S0014	3GPP2 A.S0014-D v3.0. Interoperability Specification (IOS) for cdma2000 Access Network Interfaces – Part 4 (A1, A1p, A2, and A5 – Interfaces). 2011.
[4]	TS 29.002	3GPP TS 29.002. Mobile Application Part (MAP) specification.
[5]	TS 22.016	3GPP TS 22.016. International Mobile station Equipment Identities (IMEI).
[6]	C.S0072	3GPP2 C.S0072-0 v1.0. Mobile Station Equipment Identifier (MEID) Support for cdma2000 Spread Spectrum Systems. 2005.
[7]	SC.R4002	3GPP2 SC.R4002-0 v8.0. GHA (Global Hexadecimal Administrator) Assignment Guidelines and Procedures for Mobile Equipment Identifier (MEID) and Short Form Expanded UIM Identifier (SF_EUIMID). 2012.

1.4 Acronyms and Abbreviations

Acronym / Abbreviation	Description
EIR	Equipment Identity Register
MEID	Mobile Equipment ID
IMEI	International Mobile Equipment Identity
SF_EUIMID	Short Form Expanded UIM ID

1.5 Categories of Requirements

Three different types of requirements are identified in this document using the following language:

- “M” introduces mandatory requirements, e.g. “Cars **shall** be produced in the color black.”
 - “HD” introduces highly desirable requirements, e.g. “Cars **should** be available in the color white”.
 - “O” introduces optional requirements, e.g. “Cars **may** be produced in the color blue”.
- “May not” is not used.

1.6 Carrier Acceptance

The documentation and equipment that shall be delivered to the CDMA2000 1x Operator for technical evaluation is as detailed below.

1.7 Documentation

The vendor shall provide a compliance report detailing compliance or non-compliance to each of the relevant performance and functional specifications in this document.



2. EIR Requirements

Requirements for EIR are defined for all major elements of the cdma2000 wireless network.

2.1 ME Requirements

Req. #	Requirement	Terminal	Remarks	References
2.1.1	The ME shall support MEID	M		[C.S0072]
2.1.2	The ME should support the "MEID_ME" Status Request Record Type (1X Rev. E)	HD		[C.S0005]
2.1.3	The ME shall support the "MEID" Status Request Record Type	M		[C.S0005]

2.2 RAN Requirements

Req. #	Requirement	Terminal	Remarks	References
2.2.1	The RAN shall support the transfer of the MEID_ME Record Type from the A interface to the ME via the air interface (1X Rev. E).	M		[C.S0005] [A.S0014]
2.2.2	The RAN should use QUAL_INFO_TYPE of 0 for the MEID_ME Record Type if this parameter is not supplied by the A interface protocol (1X Rev. F).	HD	This is beneficial for future record types not supported explicitly by the RAN.	[C.S0005]
2.2.3	The RAN shall support the Status Request message, Status Response Message and Extended Status Response Message	M		[C.S0005]

2.3 MSC Requirements

Req. #	Requirement	Terminal	Remarks	References
2.3.1	The MSC shall support receipt of the StatusRequest Message	M		[X.S0008]
2.3.2	The MSC shall support the MEID_ME Record_Type (1X Rev. E)	M		[C.S0005]

Req. #	Requirement	Terminal	Remarks	References
2.3.3	The MSC shall support transmission of the Status Request message to the RAN using IOS or equivalent protocols	M		[A.S0014]

2.4 VLR Requirements

A VLR may be combined with an MSC in a cdma2000 network.

Req. #	Requirement	Terminal	Remarks	References
2.4.1	The VLR shall support initiation of the StatusRequest message	M		[X.S0008]
2.4.2	The VLR shall support the MEID_ME Record_Type (1X Rev. E)	M		[C.S0005]
2.4.3	The MSC shall support the CheckMEID Message towards the EIR	M		[X.S0008]

2.5 EIR Requirements

Req. #	Requirement	Terminal	Remarks	References
2.5.1	The EIR shall support receipt of the CheckMEID message from the VLR	M		[X.S0008]
2.5.2	The EIR shall store a list of valid MEID ranges	M		
2.5.3	The EIR shall support electronic updating of the valid MEID range list	M	This supports future Centralized EIR capabilities.	[SC.R4002]
2.5.4	The EIR shall be updated with the latest MEID range information at least monthly	M		[SC.R4002]
2.5.5	The EIR should be updated with the latest MEID range information at least weekly	HD		[SC.R4002]
2.5.6	The EIR shall support 8 or 9 digit manufacturer codes	M		[SC.R4002]
2.5.7	The EIR should support 10 digit manufacturer codes	HD		[SC.R4002]
2.5.8	The EIR shall support both hexadecimal MEID codes (A0 and above) and decimal MEID/IMEI codes	M		[SC.R4002]

Req. #	Requirement	Terminal	Remarks	References
2.5.9	The EIR shall support manual entry, updating or removal of an MEID status as "Normal", "Block" or "Track"	M		[X.S0008]
2.5.10	The EIR should support electronic entry, updating of individual MEID statuses.	HD		[X.S0008]
2.5.11	The EIR shall report "No Entry" when an MEID is not found in any valid MEID range.	M		[X.S0008]
2.5.12	The EIR shall report "Normal" status if an MEID is within a valid block but not individually listed.	M		[X.S0008]
2.5.13	The EIR shall report the individual status of an MEID if one is stored.	M		[X.S0008]
2.5.14	The EIR should record every query for an MEID that is responded with a status other than "Normal"	HD		
2.5.15	The EIR should record every addition, deletion or update in its database	HD		