BSSMAP (11.2.0) Protocol Modules for TTCN-3 Toolset with TITAN, Function Specification

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# Introduction

## Revision History

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| --- | --- | --- | --- |
| Date | Rev | Characteristics | Prepared |
| 2012-11-05 | PA1 | First draft version | ETHEKR |
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## How to Read this Document

This is the Function Specification for the set of BSSMAP (v11.2.0) protocol modules. BSSMAP protocol modules are developed for the TTCN-3 Toolset with TITAN. This document should be read together with the Product Revision Information [3].

## Scope

The purpose of this document is to specify the content of the BSSMAP (V11.2.0) protocol modules.

## References

[1] 3GPP TS 48.008 V11.2.0 (2012-05)  
3rd Generation Partnership Project;  
Technical Specification Group GSM/EDGE Radio Access Network;  
Mobile Switching Centre - Base Station System  
(MSC-BSS) interface;  
Layer 3 specification  
(Release 11)

[2] ETSI ES 201 873-1 v4.4.1 (2012-04)  
The Testing and Test Control Notation version 3; Part 1: Core Language

[3] 109 21-CNL 113 761-1 Uen  
BSSMAP (v11.2.0) Protocol Modules for TTCN-3 Toolset with TITAN, Product Revision Information

[4] 1/198 17-CRL 113 200 Uen  
TITAN User Guide

## Abbreviations

3GPP 3rd Generation Partnership Project

BSSAP Base Station Subsystem Application Part

BSSMAP Base Station Subsystem Management Application Part

TTCN-3 Testing and Test Control Notation version 3

## Terminology

TITAN TTCN-3 Test Executor (see [4]).

# General

Protocol modules implement the message structures of the related protocol in a formalized way, using the standard specification language TTCN-3. This allows defining of test data (templates) in the TTCN-3 language [2] and correctly encoding/decoding messages when executing test suites using the TITAN TTCN-3 test environment.

Protocol modules are using TITAN’s RAW encoding attributes [4] and hence are usable with the TITAN test toolset only.

# Functional Specification

## Protocol Version Implemented

This set of protocol modules implements protocol messages and constants of the BSSMAP protocol, version 11.2.0 (see [1]).

## Modifications/deviations Related to the Protocol Specification

### Implemented messages

All BSSMAP messages listed in chapter 3.2 of [1] are implemented, except for the ones listed in [Protocol Modifications/Deviations](#_Protocol_Modifications/Deviations).

### Protocol Modifications/Deviations

The following messages are not implemented:

* EMERGENCY RESET INDICATION
* EMERGENCY RESET COMMAND

Message type definitions for these messages are missing from [1].

## Encoding/Decoding and Other Related Functions

This product also contains encoding/decoding functions that assure correct encoding of messages when sent from TITAN and correct decoding of messages when received by TITAN. Implemented encoding/decoding functions:

Name Type of formal parameters Type of return value  
**enc\_PDU\_BSSAP PDU\_BSSAP octetstring  
dec\_PDU\_BSSAP octetstring PDU\_BSSAP  
enc\_PDU\_BSSAP\_fast PDU\_BSSAP octetstring  
dec\_PDU\_BSSAP\_backtrack octetstring PDU\_BSSAP**

## Limitations

Debug log generation is not supported when this revision of this product is used with TITAN version R7A (1.7pl0), because the encoder/decoder functions, automatically generated by TITAN version R7A (1.7pl0) doesn't contain logging functions. Newer versions of TITAN supports the debug logging within the automatically generated encoder/decoder functions that can be activated by allowing the DEBUG\_ENCDEC (see Programmer's Technical Reference for TITAN TTCN-3 Test Executor, clause 6.2.3.2) in TITAN runtime configuration files.