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## SNDP (V7.0.0) Protocol Modules for TTCN-3 Toolset with TITAN, Function Specification

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## 1 Introduction

### 1.1 Revision history

Date	Rev	Characteristics	Prepared
2008-01-21	PA1	First draft version	ETHEKR

### 1.2 How to Read this Document

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

### 1.3 Scope

The purpose of this document is to specify the content of the SND CP protocol modules. Basic knowledge of TTCN-3 [2] and TITAN TTCN-3 Test Executor [4] is valuable when reading this document.

### 1.4 References

- [1] 3GPP TS 44.065 V7.0.0 (2006-09),  
3<sup>rd</sup> Generation Partnership Project;; Technical Specification Group Core Network; Digital cellular telecommunications system (Phase 2+); Mobile Station(MS) – Serving GPRS Support Node (SGSN); Subnetwork Dependent Convergence Protocol (SN SCP) (Release 7)
- [2] ETSI ES 201 873-1 v.3.2.1 (2007-02)  
The Testing and Test Control Notation version 3. Part 1: Core Language
- [3] 109 21-CNL 113 576-1 Uen  
SND CP (V7.0.0) Protocol Modules for TTCN-3 Toolset with TITAN, Product Revision Information
- [4] 1/198 17-CRL 113 200 Uen  
User Guide for the TITAN TTCN-3 Test Executor
- [5] 2/198 17-CRL 113 200 Uen  
Programmer's Technical Reference for the TITAN TTCN-3 Test Executor

### 1.5 Abbreviations

TTCN-3      Testing and Test Control Notation version 3

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## 1.6 Terminology

No specific terminology is used.

## 2 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 [4].

Protocol modules are using Titan's RAW encoding attributes [5] and hence is usable with the Titan test toolset only.

## 3 Functional specification

### 3.1 Protocol version implemented

This set of protocol modules implements protocol messages and constants of the SNDTCP protocol - 3GPP TS 44.065 V7.0.0 (see [1]).

### 3.2 Modifications/deviations related to the protocol specification

#### 3.2.1 Unimplemented Messages, Information Elements and Constants

None.

#### 3.2.2 Protocol Modifications/Deviations

None.

### 3.3 Encoding/Decoding and Other Related Functions

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

<u>Name</u>	<u>Type of formal parameters</u>	<u>Type of return value</u>
enc_PDU_SN	PDU_SN	octetstring
dec_PDU_SN	octetstring	PDU_SN