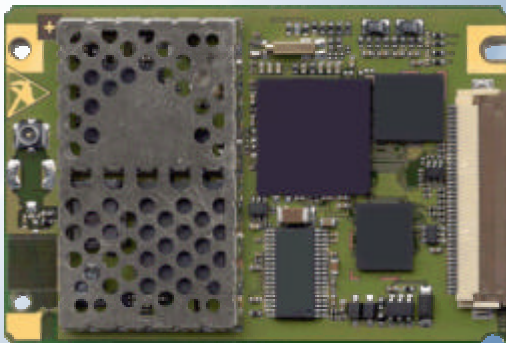# SIEMENS

TC35i
Siemens Cellular Engine

Migration Guideline TC35 -> TC35i

Version: 01.01
DocID: TC35_TC35i_01_V01.01

Wireless Modules

Document Name: **Migration Guideline TC35 -> TC35i**

Version: **01.01**
Date: **January 29, 2003**
DocId: **TC35_TC35i_01_V01.01**
Status: **Preliminary**

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1 Product Features

1.1 Feature Highlights

- Features based on TC35 and in addition new or improved functions
- Largely HW- and SW compatible
- Same mounting concept
- Same size as TC35
- Same required peripherals
- PCB: single sided
- PCB: super slim
- GSC-antenna connector
- ZIF connector 40pin
- Extended AT commands for industry
- SIM Applikation Toolkit
- 7E1
- Dual band 900/1800 MHz
- GSM only

Significant difference:

The input voltage range has changed by the upper voltage limit:

- TC35:   3,3 V – 5,5 V
- TC35i: 3,3 V – 4,8 V

We recommend a operating voltage of 4,2 V.

Note:

New measurements (EMC, ...) have to be done for a migration TC35 / TC35i.

Furthermore the approval of the application has to be updated.

1.2 Feature Overview

	Common Features of TC35 and TC35i

General	• Dual-band EGSM900 and GSM1800
	
	• Compliant to GSM phase 2/2+
	
	• Output power:
	
	  - Class 4 (2W) at EGSM900
	
	  - Class 1 (1W) at GSM1800
	
	• Ambient Temperature: - 20 ... + 55 °C
	
	• Multiplex RS232 interface
	
	• Controll via AT commands (*)
	
	(*) For a detailed description of the AT command set refer to the document „Migration Concept TC35 / TC35i"

SMS	• Point-to-point MO and MT • SMS cell broadcast • Text and PDU mode
Fax	• Group 3, class 2
Data	• CSD up to 14.4 kbps • USSD • V.110 • Non transparent mode
Audio	• Half rate (HR), full rate (FR), enhanced full rate (EFR) • Basic handsfree operation: Echo cancellation, noise reduction
Approval	• R&TTE with reference equipment • GCF approval
Antenna connector	50 Ohm GSC connector
Interface	40 pin ZIF Connector for: • Power supply • SIM 3 V • RS232 bi-directional • Autobauding • Analog audio
Tools	• Developement Support Box DSB35 • Boot Box BB35

1.3 Differences TC35 / TC35i

	TC35	TC35i
7E1 – character framing	no	yes
Dimensions	54 x 36 x 6,7 mm^3	54 x 36 x 3,6 mm^3
PCB	two-sided	single-sided
Thickness of PCB	1,25 mm	0,85 mm
Voltage Supply	3,3 – 5,5 V	3,3 - 4,8 V
Current consumption (typical)	• Talk mode: 300 mA • Idle mode: 10 mA • Sleep mode: 3,0 mA • Power down mode: 50µA	• Talk mode: 300 mA • Idle mode: 25 mA • Sleep mode: 3,0 mA • Power down mode: 50µA
SIM Application Toolkit	no	yes
Support of charging accumulator	yes	yes
PCB solder pads	no	3 contacts for connection of a battery pack (VBATT+, ACCU_TEMP, GND)
Weight	18g	10g
Packaging	90 units per packaging	100 units per packaging
Palette	5670 units per palette	6300 units per palette

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2   Outline Drawings

TC35

TC35i

3 New AT Commands

The AT Cellular command structure for TC35i corresponds to that of TC35. Differences are listed for each command.

AT-Command / Feature		Description
AT&W	exp.	Store current configuration to user defined profile AT&W is expanded with: • AT^STPB • AT+ICF Set TE-TA control character framing • AT+IFC Set TE-TA local data flow control • AT\Qn flow control • AT%D Set circuit Data Terminal Ready (DTR) function mode
AT%D	new	Automatic dialing phone number in memory ME index 1 with DTR
AT\Vn	new	the output of the announcement \RLP in CONNECT will be suppressed.
AT^SSET	new	Information on SIM read, status and break generation for Fax. • Information when the SIM reading has been completed after startup of the unit or SIM exchange.
AT+CIND AT+CMER	new	Indicator control Mobile equipment event reporting • BER +RSSI (AC43/45)
AT+CLIR	new	Calling line identification restriction • Realisation by AT command and additional by *# sequence
AT+CMGL AT+CMGR	exp. exp.	List SMS messages from preferred store Read SMS message • Output of SMS-Status-Reports in PDU Mode without fillbits (FFs)
AT+CMMS	new	Leave the data channel open for following messages
AT+CPMS	exp.	Preferred SMS mesage storage
AT+CRSM	exp.	Restricted SIM access • Prefered language • SCID (Display SIM card identification number) before PIN 1
AT+CSMS AT+CNMI	exp. exp.	Select message service New SMS mesage indications Output of SMS directly to TE without confirmation with AT+CNMA.
AT+ICF	exp.	Set TE-TA control character framing

AT+IFC	exp.	Set TE-TA local data flow control
AT+VTS	exp.	DTMF and tone generation • Transmission of DTMF tones without PIN 1 protection
ATS0	exp.	Set number of ringes before automatically answering the call • Automatically answering voice calls
AT^SNFW	exp.	Select audio hardware set • Saving the audiomode (AT^SNFS)
AT+CNMI AT+CSMS	new	AT+CNMI is independent from AT+CSMS command

exp. = expanded or improved feature
new = new feature