Automotive
Advanced Automotive Grade Modules

CINTERION
WIRELESS MODULES

AC75i, AC65i
Highest Reliability and Quality for Automotive Applications

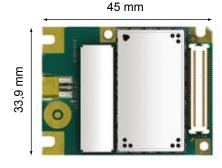|			
	Automotive Grade		Multi SIM Interface
	eCall Prepared		RLS Monitoring
	Quad-Band		TCP/IP
	EDGE Class 12		Industrial Interfaces
	GPRS Class 12		USB
	Embedded Processing		RIL Driver
	Powerful Processor Large Memory Integrated		SIM Access Profile
	Antenna Diagnostics		Advanced Temperature Management

Cinterion Wireless Modules has a long history of successful products for automotive applications. Cinterion automotive grade products are designed to meet the requirements of the automotive industry offering special automotive features as well as compliance with all relevant quality standards such as TS16949. Additionally Cinterion offers a broad range of support packages and a full life cycle service concept.

www.cinterion.com

The AC75i / AC65i represent the 6th generation of dedicated automotive modules offering advanced telematic features and are prepared to meet the requirements of the European eCall initiative. Both products are fully type approved including local network provider approvals creating a perfect basis for applications like toll collect, telematics, fleet management as well as emergency call, breakdown or roadside assistance.

Wireless Modules AC75i, AC65i
Advanced Automotive Modules for Telematics and eCall Applications

45 mm

33,9 mm

General features
- Quad-Band
  GSM 850/900/1800/1900 MHz
- EDGE (E-GPRS) multi-slot class 12 (AC75i)
- GPRS multi-slot class 12
- GSM release 99
- Output power:
  - Class 4 (2W) for EGSM850
  - Class 4 (2W) for EGSM900
  - Class 1 (1W) for GSM1800
  - Class 1 (1W) for GSM1900
- Control via AT commands
  (Hayes 3GPP TS 27.007 and 27.005)
- SIM Application Toolkit (release 99)
- TCP/IP stack access via AT commands
- Internet Services: TCP, UDP, HTTP, FTP, SMTP, POP3
- Supply voltage range: 3.2 ... 4.5 V
- Charging control for Lithium batteries
- Temperature range -40°C to +85°C
  - Protection switch off
- Dimensions: 33.9 x 45 x 3.3 mm
- Weight: approx. 8.5 g

Specification for SMS
- Point-to-point MO and MT
- SMS cell broadcast
- SMS over GPRS or CSD
- Text and PDU mode

Specification for voice
- Triple-rate codec for HR, FR, and EFR
- Adaptive multi-rate AMR
- Enhanced hands-free operation according to VDA Specification
- Echo cancellation, noise suppression
- DTMF

Specification for EDGE data transmission (AC75i)
- EDGE class 12: max. 236.8 kbps (DL & UL)
- Mobile station class B
- Modulation and coding scheme MCS 1-9

Specification for GPRS data transmission
- GPRS class 12: max. 86 kbps (DL & UL)
- Mobile station class B
- PBCCH support
- Coding schemes CS 1-4

Specification for CSD data transmission
- Up to 14.4 kbps
- V.110
- Non-transparent mode
- USSD support

Over-the-air update
- Application SW: OTAP
- Firmware: FOTA

Approvals
- R&TTE, FCC, UL, IC, GCF, PTCRB, e-mark, CE
- Local approvals and network operator certifications

Specification for fax
- Group 3, class 1

Java™ features (AC65i)
- CLDC HotSpot™ Implementation 1.1.2
- Java ME™ profile IMP-NG
- Secure data transmission with HTTPS and PKI
- Improved power-saving modes
- Multi-threading
- On-device-debugging

Interfaces
- Rosenberger SMP 50 Ω antenna connector for automotive environment
- Antenna pad for contact springs
- 80-pin board-to-board connector
  - Power supply
  - Audio: 2x analog, 1x digital (PCM)
  - 2x serial interfaces (ITU-T V.24 protocol, up to 921 kbps)
  - USB 2.0 full speed
  - SIM card interface 3 V, 1.8 V
  - I²C bus and SPI bus
  - ADC input
  - DAC output with PWM
  - Multiple dedicated GPIOs

Special automotive features
- Prepared for European eCall
- SIM Access Profile integrated
- RLS monitoring (e.g. for jamming detection)
- Advanced temperature management
- Measurement of module temperature
- Antenna diagnostic (up to 2 ext. antennas)
- Emergency call at high temperature
- IMDS listed & GASDL compliant
- TS16949 development and manufacturing
- RIL software for Microsoft® Windows Mobile™ based devices
- Multiplexer driver for Microsoft® Windows

Cinterion Global Support

Local engineers, a competent helpdesk, a dedicated team of R&D specialists and an advanced development center are the hallmarks of our leading support offer. The Cinterion support includes:
- Personal design-in consulting for hardware and software
- Extensive RF test capabilities
- GCF/PTCRB conform pretests to validate approval readiness
- Guidelines for local approvals and acceptances
- Regular training workshops

Further information about our products and services is also accessible via www.cinterion.com