

DATASHEET

IT-RQM97V1FLCi5 In-Vehicle Computer

INTRODUCTION

Multifunctional hardware at the right Price!
The IT-RQM97V1FLCi5 In-Vehicle Computer. This robust embedded x86 compact computer is dedicated to its use in the computer industry in the vehicle. Equipped with a fifth generation of Intel® Core™ and Broadwell U processors, the model provides sufficient computing power for the simultaneous handling of a variety of vehicle applications in particular the use of the multiple forms of captive portal, AAA server, advertising and other services synchronized and unified with a powerful Intel Core i5 5350U 1.80GHz, 3M cache platform, 16GB of memory, 2 port Giga Ethernet, 1 x SMA for GPS, 1 x SMA for 4G LTE, 2 x SMA for WiFi, 1 x SMA for Bluetooth, 1 x HDMI type A connector and 1 x DVI-D connector.



ESPECIFICATIONS

System	
CPU	Intel Core i5 5350U 1.80GHz, 3M cache Processors
Chipset	-
Memory	2 x DDR3L-1600MHz, SO-DIMM, up to 16GB(non-ECC)

Video

Graphic Controller	Intel® HD Graphics 6000
Video Memory	DVMT
Video Interface	<ul style="list-style-type: none"> • 1 x HDMI type A connector • 1 x DVI-D connector

Communication

Ethernet	<ul style="list-style-type: none"> • 2 x Intel GbE chip via RJ-45 connector (Intel i210IT)
USB	<ul style="list-style-type: none"> • 2 x USB 3.0 • 2 x USB 2.0
Serial Port	<ul style="list-style-type: none"> • 2 x RS232 (2 x DB9) • 1 x RS422/RS485 (Select by GPIO)

Storage

SATA	<ul style="list-style-type: none"> • 1 x SATA III port with power connector
SSD	<ul style="list-style-type: none"> • 1 x M.2 SSD
Disk Bay	<ul style="list-style-type: none"> • 1 x swappable 2.5" SSD bay with Anti-vibration / Anti-shock solution

I/O

Expansion slot	<ul style="list-style-type: none"> • Mini PCIe Socket supported for WiFi+BT. (Standard: 802.11ac/b/g/n) Military Temperature Range: -40°C ~ +85°C (WPEQ-353ACNI)
GPIO	<ul style="list-style-type: none"> • 8-bit GPIO (4 In, 4 Out)
Antenna Hole / NIC	<ul style="list-style-type: none"> • 1 x SMA for GPS • 1 x SMA for 4G LTE (Sierra 7355 4G LTE) • 2 x SMA for WiFi (WPEQ-353ACNI) • 1 x SMA for Bluetooth

SIM	SIM Slot x 1, SIM card changeable without opening case
Security	Support I-Button for driver ID
CAN BUS	Support CAN 2.0A/2.0B protocol

Others Feature

Audio	Audio Codec (Line-out & MIC)
Hardware Monitoring	CPU voltage and temperature
WatchDog Time	0~255 sec. software programmable
Indicator	Power / HDD/ Status LED

Power Requirement

Power Requirement	9~32 V (+/-5%) single voltage input, 3 poles terminal block
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Software

OS Support	<ul style="list-style-type: none"> • ITRADIUS v. 1.0 Tempesta.
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Mechanical & Environment

Thermal Design	Fanless
Chassis Material	Metal SPGC (Black printing color)+ Aluminum heatsink
Vibration	IEC 60068-2-64, 5~500Hz, 3GRMS(CF/SSD), _____Operating with SSD
Shock	IEC 60068-2-27, 50G 500m/s ² 11MS, _____Operating with SSD
Dimension	290mm x 190mm x 45mm
Weight	4 kg
Operating Temp.	0~60°C
Storage Temp.	-40~80°C
Relative Humidity	0~90% @ 40°C, non-condensing
Safety	CE, FCC class B, E-Mark

Smart In-Vehicle Power Management	
O/S Anti-Crash	Smart O/S boot/shut-down control by power subsystem
System boot / Shut-down delay	Delay time from 0 seconds to 60 minutes setting in BIOS
Power on/off switches	<ul style="list-style-type: none"> • System power switch by remote cable switch • System power input serial connection to car battery and ignition switch
Car battery protection	Low battery voltage monitoring and configurable auto shutdown low battery voltage level

Packing List
• 1 x IT-RQM97V1FLCi5
• 1 x User Guide & System Driver CD
• 1 x Screw pack(2.5"HDD bracket: 4pcs)
• 1 x Terminal block female 3pin(for power input)
• 1 x Spare Fuse 10A
• 1 x GPIO/CAN/Driver ID DB15 Cable
• 1 x Remote Switch Cable
• 1 x HDMI locking bracket

TECHNICAL SPECIFICATIONS

- ◆ ITRADIUS v. 1.0 Tempesta.
- ◆ AAA Server (FreeRADIUS V.3.0.10)
- ◆ Supports NAS (Network Access Server) Virtual and Physical.
- ◆ Ability to deploy a captive portal / Hotspot with multiple sites (CoovaChilli rolling release V 1.3.1).
- ◆ Support for local storage on SQL Database.
- ◆ Asynchronous WEB administration.
- ◆ Support for deploying virtual network interfaces,
- ◆ Connectivity over VPN and SSH Tunnels.

- ◆ Certification authority and issue of certificates on demand.
- ◆ VLAN and IP v4 Support.

FUNCTIONAL CHARACTERISTICS

- ◆ Support from various identity providers:
 - Local DB
 - ODBC
 - OPENID
 - LDAP
 - ADC (Microsoft Windows Server version 2003 a 2016)
- ◆ Dictionary system for NAS auto configuration (Network Access Server): HP, CISCO, ARUBA NETWORKS, amongst others.
- ◆ Real time system statistics and status.
- ◆ Automatic subscription updates.
- ◆ Custom system of groups and attributes that Define user properties.
- ◆ Ability to synchronize multiple instances with a master AAA server.
- ◆ Communication methods with the NAS (Network Access Server):
 - External Encryption or authentication Layer:
 - TLS
 - LEAP
 - FAST
 - TTLS
 - EAP (PEAP)
 - Internal Encryption:
 - MSCHAP V.2.0
 - MD5
 - GTC

- ◆ Variations of Captive Portals / Hotspot:
 - Standard Captive Portal: User name and Password (Local DB, ODBC, LDAP y ADC).
 - Direct Step Captive Portal.
 - Captive portal with Access Code (PIN).
 - Captive portal for Phantom users with delegated authority.
 - Captive portal with data Capture (forms).
 - Captive portal with External Sync, (Open ID: Google, Facebook, Twitter).
 - Captive portal with MAC Recognition. (RADA - RADIUS Authenticated Device Access).
 - Captive portal with app verification. (Requires a confirmation of installation of the specific application).
- ◆ Exclusion system of domain names and IP addresses through Garden in ny captive portal methods / Hotspot.
- ◆ Custom theme uploading (CSS) in any Captive portal / Hotspot method.

VALUE ADDED CHARACTERISTICS

- ◆ Integration with External applications through public API, protocol HTTPS in JSON format.
- ◆ Ability to Support embedded and synchronized applications through Python Wheels.
- ◆ On demand advertising injection through **ADFLY**

- ◆ Custom advertising splash system.
- ◆ Custom Widget system for captive portal views.

MITIGATED VULNERABILITIES

- ◆ Out of the way Attacks “Off-path”
<https://arstechnica.com/security/2016/08/linux-bug-leaves-usa-today-other-top-sites-vulnerable-to-serious-hijacking-attacks/>
- ◆ Provides users without privileges unrestricted Access to the root.
<https://arstechnica.com/security/2016/10/most-serious-linux-privilege-escalation-bug-ever-is-under-active-exploit/>
- ◆ An unprivileged user can copy, modify or destroy a hard drive.
<https://threatpost.com/cryptsetup-vulnerability-grants-root-shell-access-on-some-linux-systems/121963/>
- ◆ Unauthorized messages can be sent.
<http://thehackernews.com/2017/02/python-java-ftp-protocol-injection.html?m=1>
- ◆ Avoid Firewall defenses.
<http://thehackernews.com/2017/02/python-java-ftp-protocol-injection.html?m=1>

IDEAL PRODUCT USE:

◆ Hospitals	◆ Internet Kiosks
◆ Libraries	◆ Dorm Rooms
◆ Restaurants	◆ Churches
◆ Coffee shops	◆ Offices
◆ Condominiums	◆ Events

◆ Tourist Attractions	◆ Convention Centers
◆ Airports	◆ Hotels
◆ Stadiums	◆ Public Parks
◆ Universities	◆ Concerts
◆ College Campuses	◆ Movie Theatres
◆ Shopping Centers	◆ Night Clubs
◆ Bus Terminals	◆ Gyms
◆ Internet Service Providers (ISP's)	◆ Any other locations where Captive Portals may be utilized.

USE ORDERING INFORMATION

Ordering Information	
IT-RQM97V1FLCi5	ITRADIUS with Intel Core i5 5350U / WIFI 11AC (WPEQ-353ACNI) / 4G LTE (Sierra 7355 4G LTE)