Wireless PCMCIA Card

Marketing Requirements Specification

T60H556

June 03, 2002

0. Revision History

Date: June 3, 2002 REV.0.1

1. Introduction

Project Name : Wireless PCMCIA Card
Project Code : T60L556.00

This documentation describes the marketing requirements specification of the Ambit Wireless PCMCIA Card. It is a confidential document of AMBIT.

1.1 Scope

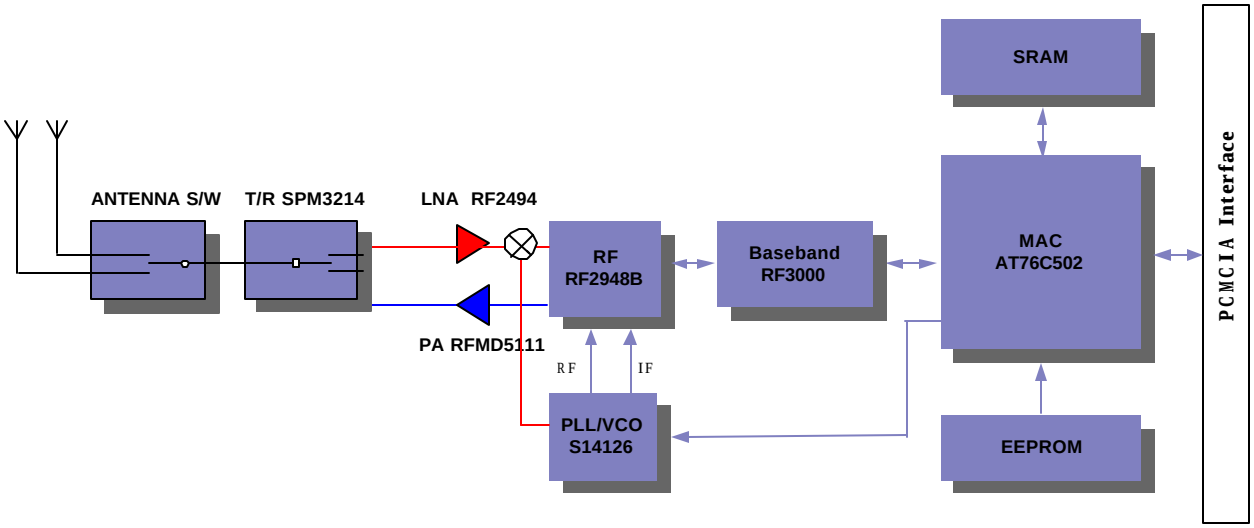
AMBIT Wireless High Rate PC Card complied with IEEE 802.11b 11Mbps Standard, it can be used to provide a variety of low-cost wireless network interface card to connect your wireless LAN via fitting into the type II PC Card slot. The Wireless High Rate PC Card that complies with this specification and combines networking with high-speed Internet access will let people connect to the Internet anywhere, anytime.

With seamless roaming, fully interoperability and advanced security with WEP standard, Wireless High Rate PC Card can allow user to switch to different vendors' Access Points through the wireless networks and to prevent from eavesdropping.

1.2 Function

- Compatible with IEEE 802.11b high rate standard to provide wireless Ethernet speeds of 11Mbps data rate
- Dynamic data rate switching with 11, 5.5, 2 and 1Mbps
- Allows auto fallback data rate for optimized reliability, throughput and transmission range
- Supports wireless data encryption with 64-bit and 128-bit WEP standard for security
- Integrated Microstrip dual diversity antennas for the multi-path environment
- One-piece PC Card design to fully support PCMCIA type II defined mechanical and environmental stress conditions
- Drivers supports Windows 98, 98SE, 2000, ME and XP

2 . Hardware Architecture:



T60H556.00 Blocd Diagram

AT76C502： MAC
RF3000: SPREAD-SPECTRUM BASEBAND MODEM
RF2948B: 2.4GHZ SPREAD-TRANSCEIVER
RF2494: HIGH FREQUENCY LNA/MIXER
SI14126: ISM RF SYNTHESIZER WITH INTEGRATED VCOS

2. Product Requirements

2.1 Hardware Requirements

Radio Technology	IEEE 802.11b Direct Sequence Spread Spectrum
Operating Frequency	**2400 ~ 2483.5MHz (for US, Canada, and Europe)** **2400 ~ 2497MHz (for Japan)**
Modulation Schemes	DQPSK, DBPSK and CCK
Channel Numbers	IEEE 802.11b compliant 11 channels for FCC(US, Canada) 13 channels for ETSI(Europe Countries) 14 channels for TELEC(Japan)
Data Rate	11Mbps with fall back rates of 5.5, 2, and 1Mbps
Spreading	11-chip Barker Sequence
Media Access Protocol	CSMA/CA with ACK
Transmitter Output Power	21mW typically
Receiver Sensitivity	Min. –82dBm for 11Mbps @ 10^{-5} BER(typically) Min. –87dBm for 2Mbps @ 10^{-5} BER(typically)
Antenna Type	Integrated Microstrip dual diversity antennas
Operating Voltage	5V DC
Current Consumption	500mA at transmit mode (typically) 230mA at receive mode (typically) 50mA at sleep mode (typically)
Interface	PC Card Type II

2.2 Software Requirements

The Ambit Wireless High Rate PC Card shall support Microsoft Windows 95, 98, 98SE, 2000, ME, XP.

2.3 Mechanical Requirements

The Ambit Wireless High Rate PC Card shall be 6-layer FR4 PCB design, which meets the requirements of PC Card Type II.

Physical Dimension (W x L x H) : 54mm x 114.5mm x 5mm

3. Compatibility Requirements

The Ambit Wireless High Rate PC Card shall pass the standard test plan, which includes hardware compatibility and reliability, and software compatibility test.

4. Regulatory Requirements

4.1 Regulation requirements

The product must be complied with the regulation requirements of

1) FCC part 15.247, 15.205, 15.209 and certified by FCC before marketing in USA
2) ETS 300 328 and certified by ETSI before marketing Europe countries
3) RCR STD-33, STD-T66
4) and certified by MPT (MKK) before marketing Japan

4.2 ESD requirements

The subject product must withstand 15KV test voltage of electrostatic discharge under operational conditions.

5. Reliability, Maintainability and quality

5.1 Reliability

Mean Time Between Failure (MTBF) TBD

5.2 Maintainability

There should be no scheduled preventive maintenance required.

5.3 Quality

The product quality must be followed-up by Ambit factory quality control system.

6. Environmental Requirements

6.1 Temperature

6.1.1 Operating Temperature Conditions

The product shall be capable of continuous reliable operation when operating in ambient temperature of 0 degree C to +70 degree C.

6.1.2 Non-Operating Temperature Conditions

Neither subassemblies shall be damaged nor shall the operational performance be degraded when restored to the operating temperature when exposed to storage temperature in the range of -10 degree C to +75 degree C.

6.2 Humidity

6.2.1 Operating Humidity Conditions

The product shall be capable of continuous reliable operation when subjected to relative humidity in the range of 10% and 90% non-condensing.

6.2.2 Non-Operating Humidity conditions

The product shall not be damaged nor shall the performance be degraded after exposure to relative humidity ranging from 5% to 95% non-condensing.