ST 9000-PREMIUM Technical Specification

Appearance

- **Dimension：190× 80× 25mm；**
- **Weight：400g（include standard battery）；**
- **Display： 3.5 inches QVGA （240× 320 pixel) color with back-light reflective TFT-LCD display; support 32bit color; highly scratch resistance surface.**
- **Keyboard: 25+1 function and numeric self-luminous and back light keys.**
- **Memory slot：SD slot for expand memory**
- **Port: RS232 or USB connection**
- **Audio: Internal dual channel speaker and MIC, with Line-In Jack for MIC and speaker;**
- **Hand Strap: Located at the back of the device for secure hand grip;**
- **Ergonomic design; it can be operated with one hand**

Micro Processor and Internal Memory

- CPU: SAMSUNG 400MHz CPU
- System Memory:128MB RAM、128M Flash
- Expand Memory: Device embedded with SD slot, user can expand memory by adding SD flash memory

Operating System

- Microsoft Windows CE 5.0 （Multi-Language)
- SDK for multiple programming languages which include C#、VB.net、VC++ to assist system developer.

Ergonomic and Human Interface

Large color back-light reflective LCD display, visible under bright sunlight and in dark environment;

Flexible, easy to operate keyboard, support alphanumeric and symbol input.

ST 9000-PREMIUM Technical Specification (Continue 1)

- Protective Grade Level: IP64, industrial sealing prevent fine dust, rain drop and splash proof.
- Impact Proof: ST9000 can sustain 1.2 meters free drop on concrete, 6 times per 6 directions under operating temperature; free drop from 5 feet height onto concrete and the environment temperature is at 23
- Operating Temperature: -15 to 50
- Storage Temperature: -20 to 60
- Relative Humidity: 5% to 95% (non condens)

Supported Data Communication (Optional)

- WLAN
- ST9000 can be integrated with Wi-Fi wireless local area network (WLAN) card, which enable mobile operation real-time exchange data with data center by means of WLAN infrastructure;
- The WLAN is in compliance with IEEE802.11b/g standard (11Mb/s-54Mb/s).
- GSM/GPRS
- ST9000 can be integrated with GSM/GPRS data communication module in order to support outdoor real-time operation and data exchange with data center.
- ST9000 can be plugged in with mic-speaker ear piece for cellular phone feature
- Bluetooth
- ST9000 can be integrated with Bluetooth module, which allow real-time printing through Bluetooth portable receipt or barcode label printer.

Battery

- Standard Battery: 3.7V 3200mAh Li-ion battery, which can support 8 hours continue operation;
- Internal Backup Battery: 17mA;
- Embedded with Battery Power Management: Constantly monitor operation status and make power consumption adjustment accordingly;
- Battery Charge: Direct in-unit charge from power adapter or reside in docking station.

ST 9000-PREMIUM Technical Specification (Continue 2)

1D Barcode Scanning

- **Scanning Type: Linear 1D Laser Diode Scanning**
- **Optical Resolution: 0.004 inch per narrowest element**
- **Scan Rate: 100scans/second (bi-direction)**
- **Scan Distrance: 10 ~ 78mm**
- **Direct Sunlight Immunity: 8,000 ft. candles (86,112Lux)**
- **Ambient Light Immunity: 450 ft. candles (4,844Lux)**
- **Vibration Proof: 2,000 +/- 5% G**
- **Barcode Decoding Capability: UPC-A,UPC-E, EAN-13,/JAN-13, EAN-8/JAN-8, CODE 39, CODE 128, CODABAR/NW7,Interleave 2/5, Industrial 2/5, Matrix 2/5, CODE 93, CODE 11, China Postage, MSI/PLESSEY.**

ST 9000-PREMIUM Technical Specification (Continue 3)

2D Barcode Scanning

QR

PDF-417

- Light Source: 650 nm visible Laser Diode
- Resolution: 640 x 480
- Narrowest Element: 5 mil (0.127 mm)
- Reading Distance: 2.5cm - 35cm
- Barcode Decode Capability:

1D Barcode UPC-A,UPC-E, EAN-13,/JAN-13, EAN-8/JAN-8, CODE 39, CODE 128, CODABAR/NW7, Interleave 2/5, Industrial 2/5, Matrix 2/5, CODE 93, CODE 11, China Postage, MSI/PLESSEY.

2D Barcode PDF417,microPDF417, MaxiCode, DataMatrix (ECC 200), Composite Codes & QR Code

Postal Code, U.S. Postnet, U.S. Planet,U.K. Postal, Japan Postal, Australian Postal & Dutch Postal

ST 9000-PREMIUM Technical Specification (Continue 4)

High Frequency - HF RFID Read/Write

- **International Standard**
    - **ISO/IEC 14443A**
    - **ISO/IEC 14443B**
    - **ISO/IEC 15693**
    - **Mifare One S70**
    - **Mifare One UltraLight**
    - **Mifare One S50**
    - **Mifare Pro**
    - **AT88RF020 66CL160S**
- **Operating Frequency**
    - **13.56MHz**
- **Baud Rate: 9600-115200 bit/s**
- **Operating Distance:0--8cm**
- **Supported Cards**
    - **SR176, SRIX4K,TYPE-B**
    - **I-Code2, TI RFID Tag-it HF-I,**
    - **EM4135, EM4034 etc.**
- **Operating Temp: -10° ~ +40°**
- **Storage Temp: -20° ~ +70°**

ST 9000-PREMIUM Technical Specification (Continue 5)

Ultra High Frequency - UHF RFID Read/Write

- **Operating Freq.:860-960MHZ**
- **Standard:**
  ISO 18000-6B\C
  EPC Class1 Gen2
- **Antenna Gain: 5dB**
- **Polarization: Circular**
- **Reading Distance: ≤1.2m**
- **Reading Rate: 640Kbit/sec**
- **Protocol Initiated by Reader**
  Half-Duplex
- **Radiation Power <1W**
- **Operating Temp -20° ~ +50°**
- **Storage Temp -25° ~ +70°**

ST 9000-PREMIUM Technical Specification (Continue 6)

Embedded with GPS Navigation

- Electronic Map: Careland
- Locating Accuracy: ≤10m
- Receiver: 1575.42MHz
- Port: COM2
- Module Internal GPS module and antenna
- Satellite Channel:20 Channels
- Capture Lead Time
  Hot start:
    ≤10 sec ,average
  Warm start
    ≤38 sec ,average
  Cold start
    ≤55 sec ,average
- Reflesh Rate: 0.1 times/sec
- Map Storage Media SD Card

Infra-Red Temperature Sensor

- **Measure Range -30 +650**
- **Operating Temperature 0 - 50**
- **Accuracy +/-1.0%**
- **High Temp Enviornment Reading +/-2% or 2 The highest count**
- **Emission Rate 0.10 to 1 adjustable**
- **Resolution 0.1/0.1**
- **Response Time: 1 second**
- **Target Distance: 20:1**
- **Function: Highest Value, Lowest Value, Different between Highest and Lowest Value, Average, Alarm at Exceed Highest Limit, Alarm at Exceed Lowest Limit.**

ST 9000-PREMIUM Varity of Communication Mode (GSM/GPRS, Wi-Fi, Bluetooth)

MC55/56 GPRS/GSM Siemens

Features	Benefits
Tri-band: 900/1800/1900 (MC55) 850/1800/1900 (MC56)	Certified by All GSM/GPRS nations in the world
Anti-Interference Industrial Design	Widely Adopted in the Market
GPRS (class 10), PBCCH support	Better Throughput with GPRS Data Transfer Rate

Marvell 88W8686 WLAN

Features	Benefits
Compliance with 802.11b/g International Standard	Widely Adopted in the Market
Compliance with 802.11i Security Standard	More Reliable and Safe
Compliance with CISCO CCX2,3 Security Standard	100% support CISCO AP and Security feature

CSR BlueCore Bluetooth

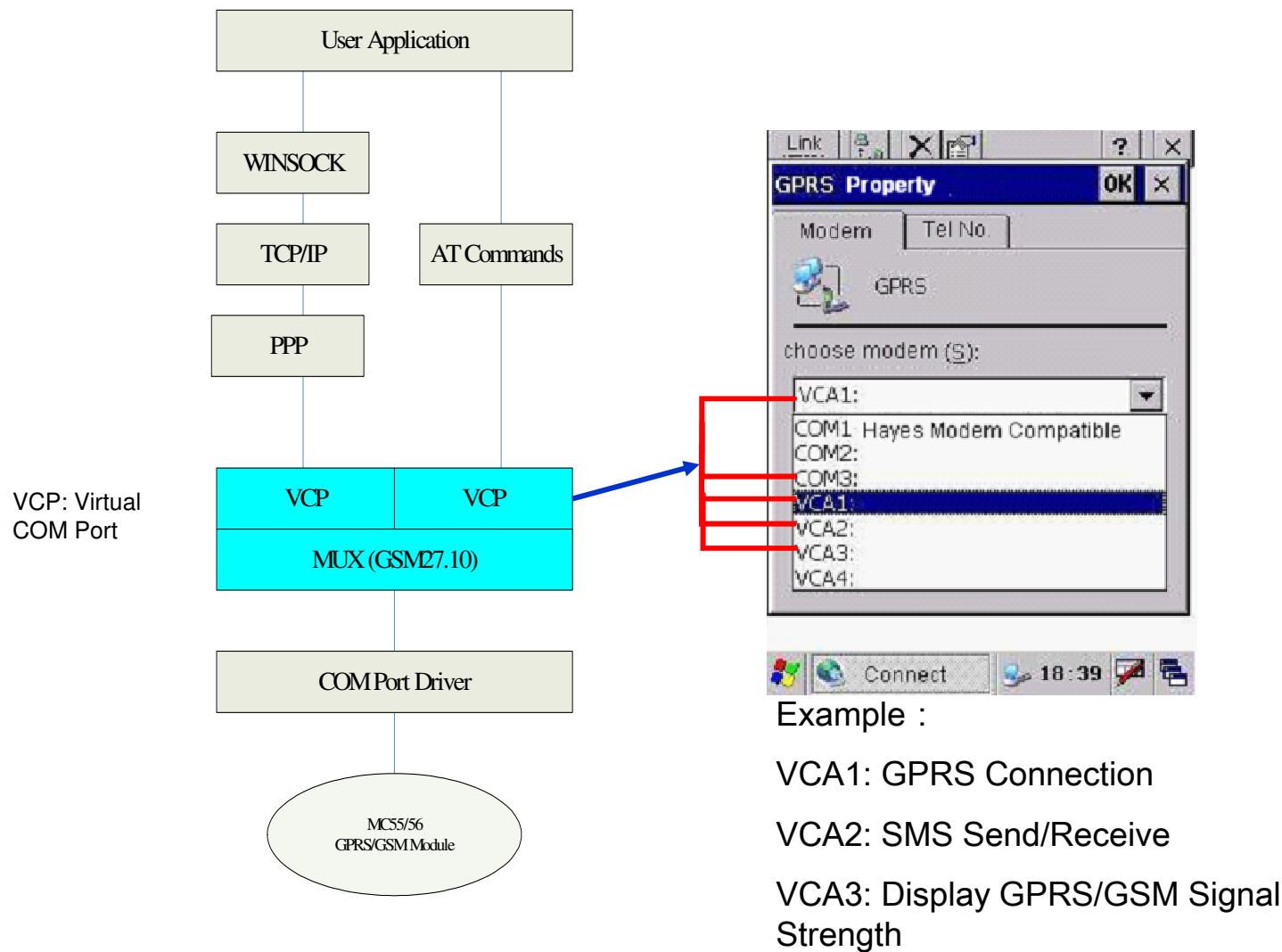| Features	Benefits
Bluetooth 2.0 International Standard	Widely Adopted in the Market
Support Varity Bluetooth Printing Standard	Wide Range of Choice for Printer
Compatible with Bluetooth Class 1.1 and 1.2	Increase Cost Per Performance Effectively

ST 9000-PREMIUM Supports GSM Parallel Multiple Channel

User Application

WINSOCK

TCP/IP   AT Commands

PPP

VCP: Virtual
COM Port

VCP   VCP

MUX (GSM27.10)

COM Port Driver

MC55/56
GPRS/GSM Module

Example :

VCA1: GPRS Connection

VCA2: SMS Send/Receive

VCA3: Display GPRS/GSM Signal
Strength

ST 9000-PREMIUM All-In-One Impact Proof Industrial Design

➢Integrated internally with GPRS and WLAN Antennas, to improve the raggedness.

➢ Wide Range of Operating Temperature from -15° to 50°

➢ Drop proof from 1.2 meters without damage. Vibration Proof Case Design

➢ IP64 Industrial Design

➢ Integrated Design to achieve the true industrial grade, reliable and stable device.

Integrated WLAN, GPRS, Bluetooth

WLAN, GPRS, Bluetooth Require Plug In Modules

ST 9000-PREMIUM Extensive Applications

ST 9000-PREMIUM co-exist with Bluetooth module and Wi-Fi module, so as to provide concurrent processing of wireless network (GPRS or Wi-Fi) and Bluetooth with other computer peripherals.

Connects to Bluetooth printer for remote printing receipt and labels

Integrated with GPS module to carry out tracking and navigation

ST 9000-PREMIUM Supports Digital Signature Capture

➤ Can be used in capturing customer signature electronically

ST 9000-PREMIUM Profession Applications

1. Courier Services; Tracking items

3. Warehouse Distribution Center

2. Mobile Sales Management; prevent illegal sales activities

4. Fix Asset Management

5. Water, Electricity, Petrochemical, Natural Gas, Utilities Patrol and Meter Reading

6. Mobile Clinic (Blood Donation Collection)

7. Production Execution, Production Tracking

8. Exhibition Information Management, Tourist Attraction Places, Ticketing

9. Tobacco Logistic Business

10. Mobile Police Activities, Law Enforcement, Quality Inspection, Civil Management

11. Military Logistic Management

12. Retail Chain Organization Management (Promotion Desk, SuperMart, Branches)