1. Operational Description
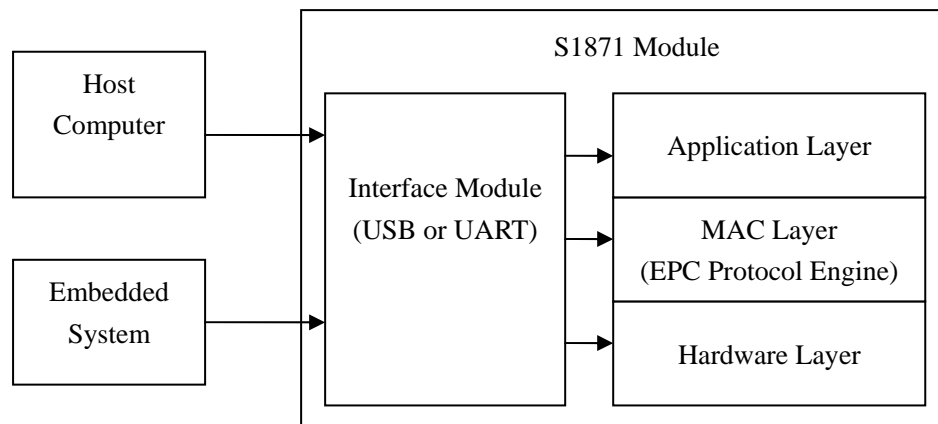
1.1 Logical Architecture of S1871 Module

Fig 1

1.2 Operational Principle of Each Module

1.2.1 Interface Module

This module used for data transfer between host computer and the S1871 module, or external embedded system and the S1871 module. These data include the commands which host computer or embedded system sent to the S1871 module, and the information of the tags that the S1871 module return. It can be used for firmware updating, too. The interface module offers UART and USB2.0 for data transfer.

1.2.2 Hardware Layer

The hardware layer includes power supply, control circuit and RF circuit. The control circuit is to control working mode of the module. And in RF circuit, the RF signal comes from the RF integrate circuit, inside the IC, at first, a digital signals occurs by the waveform generation, and then, the digital signal is converted to analog signal, and after mixing and modulation, the signal is amplified by PA. In the end, a RF signal is sent out. The way of modulation is ASK. Please refer to Fig 2
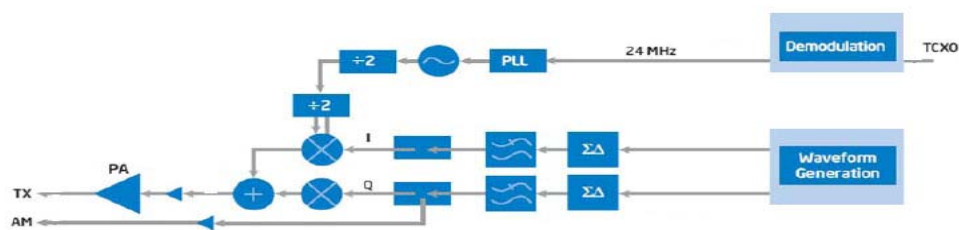
Fig 2

1.2.3 MAC Layer

This layer controls the working mode of the S1871 module. Different regulation needs different ways to operate. This layer defines how to read tags and which kind of tags to read.

1.2.4 Application Layer

By the internet applications, we can make use of the module for reading tags. We can control it to work and stop, or other operating mode.

2. Technical Overview

Parameter		Min	Typical	Max	Note
Vin		DC+3.3V	DC+3.5V	DC+5V	
Icc	Sleep Mode	100mA	160mA	210mA	VCC=+3.5V
	Idle Mode	400mA	450mA	500mA	VCC=+3.5V
	Operation Mode	TBD	1.6A	2.0A	Depended on output power and the Vin. These data are tested at 27dBm output and Vin=3.3V
RF output		15dBm	-	30dBm	
Operation Temperature		-40~+55℃			
Interface		USB2.0			
		UART			3.3V level
RFID Protocol		EPC C1G2 or ISO18000-6C			