10.NFC

10.1 NXP NFC 控制 IC PN544 / PN65N

▸ Short-range (~ 10 cm), 13.56 MHz secure contactless technology

▸ Standardized in ISO 18092 ECMA and ETSI

▸ Compatible with existing ISO 14443 contactless cards & reader infrastructure

▸ Reader and card mode modes possible in same device

▸ Device-device connectivity

▸ Data exchange rate up to 424kbit/sec

PN544 – NFC Controller

Market

Mobile
Portable equipment

Customer Benefits

Smallest package TFBGA64 (4.5x4.5)
Integrated BOM ~ 50mm2 (FracNpll, PMU …)
SWP/HCI ETSI compliant (TS102613/TS102622).
Optimized power management

Features

80C51MX core
Integrated power management unit
• Hard power down current less than 5µA at 3V power supply
• Direct connection to mobile battery 2.3 to 5.5V
• Powered-by-the-field in card emulation
• Powered-down mode in card emulation
• Secure element supply (SIM, SMX)
Integrated FracNpll to save XTAL quartz
Integrated self test to test antenna matching circuit during production

Package TFBGA64 (4.5x4.5x0,8)

Supported RF protocols

Card Emulation
ISO/IEC 14443 (A&B), MIFARE and
Type B' card emulation support via SWP
ISO/IEC 14443A, MIFARE over NFC-WI

Reader/Writer mode
ISO/IEC 14443 Type A & B R/W up to 848 kbit/s
ISO/IEC 15693
FeliCa R/W support
Support for all mandatory NFC Forum tags Types
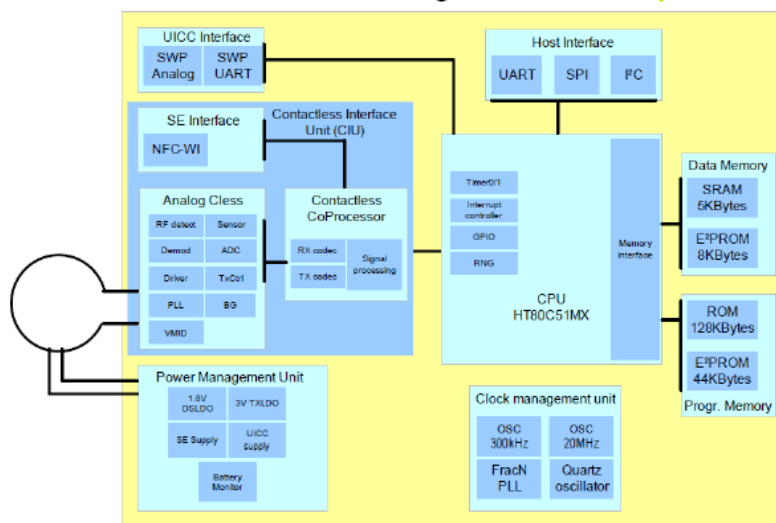R/W support for MIFARE 1K, 4K

Peer to Peer mode
NFCIP-1 compliance

Interfaces

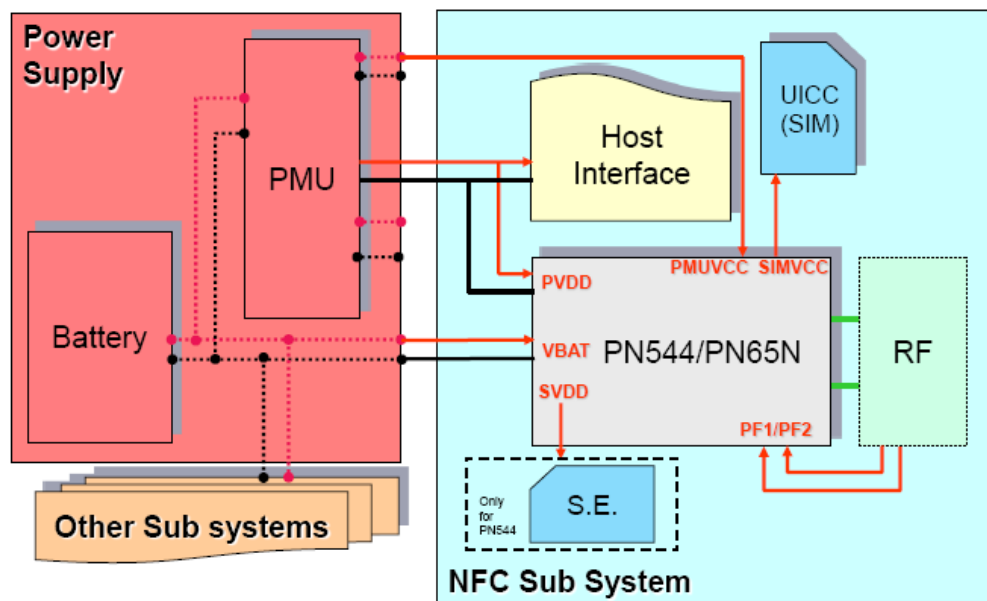Host baseband: SPI, I²C , Serial UART
Secure elements: SWP, NFC-WI

▸ PN544/PN65N is an **NFC Transceiver** designed for **mobile phone** integration:

NFC Applications in Computing and Consumer Electronics

Connectivity
Quick and secure
WLAN set-up

Transactions
Secure Payment

Connectivity
Enable quick and easy
long range data transfer

大聯大核心價值觀
WPG Shared Values
Let's T.I.P.E. !

團 隊   誠 信   專 業   效 能
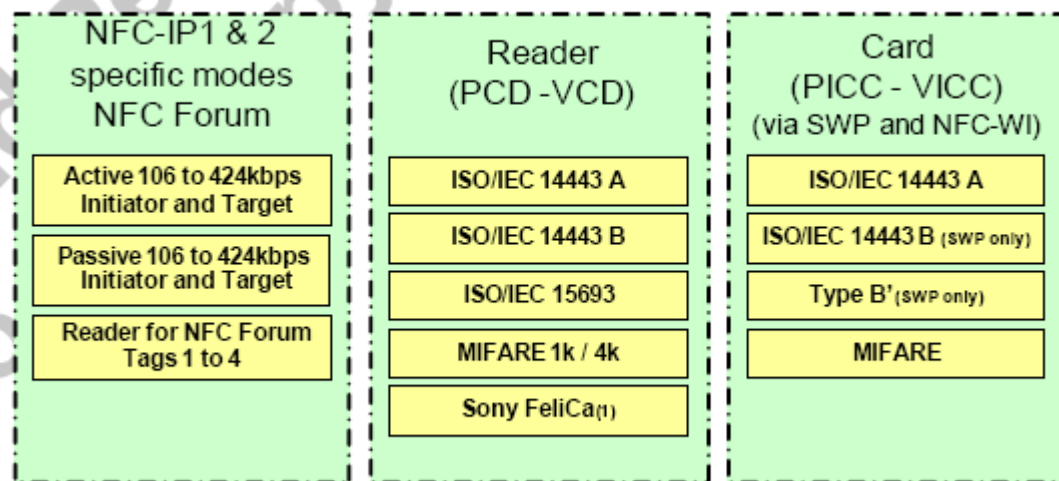Teamwork Integrity Professionalism Effectiveness

www.WPI-group.com

Typical PN544/PN65N implementation

PN65N 集成了 PN544 的 NFC 功能並加入了 SMARTMX 其適用於各種手持式裝置其優越的低功耗及可軟體規劃控制的電源狀態及小體積包裝均適用於各種手持式裝置.

PN65N 內部集成了 SmartMX 安全晶片期控制模式可透過 NFC-WI 界面完成數據以及命令的傳送接收. 其工作模式主要可分為以下三種...

PN65N / PN544 主要的控制界面有三種 :

1. High Speed UART
2. SPI
3. I^2C
4. Automatic wake up from STANDBY via host controller interface

● 整合電源控制單元

- 提供 IO PORT 可供外部單元控制
- 中斷 IRQ 可使外部控制單元的命令通訊更簡易
- 彈性的時鐘供應模式
- 支援安全單元控制界面
- RF PROTOCOL 可支援

Peer-To-Peer	Reader/Writer	Card Emulation
Sony	Sony FeliCa	Sony FeliCa
ISO 14443 -A	ISO 14443 -A	ISO 14443 -A
ISO 14443 -B	ISO 14443 -B	ISO 14443 -B
ISO 15693	ISO 15693	ISO 15693