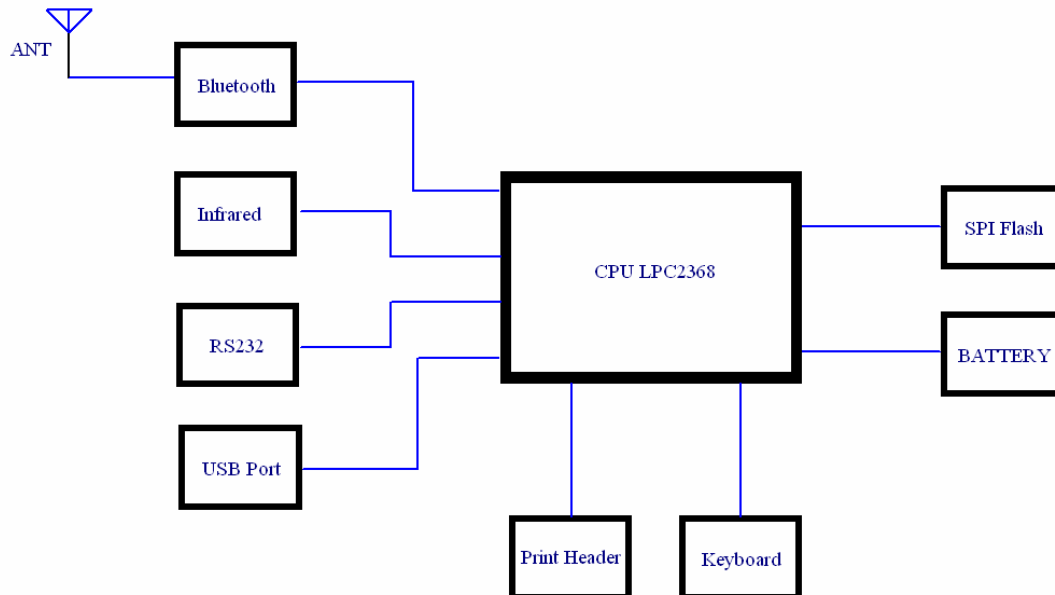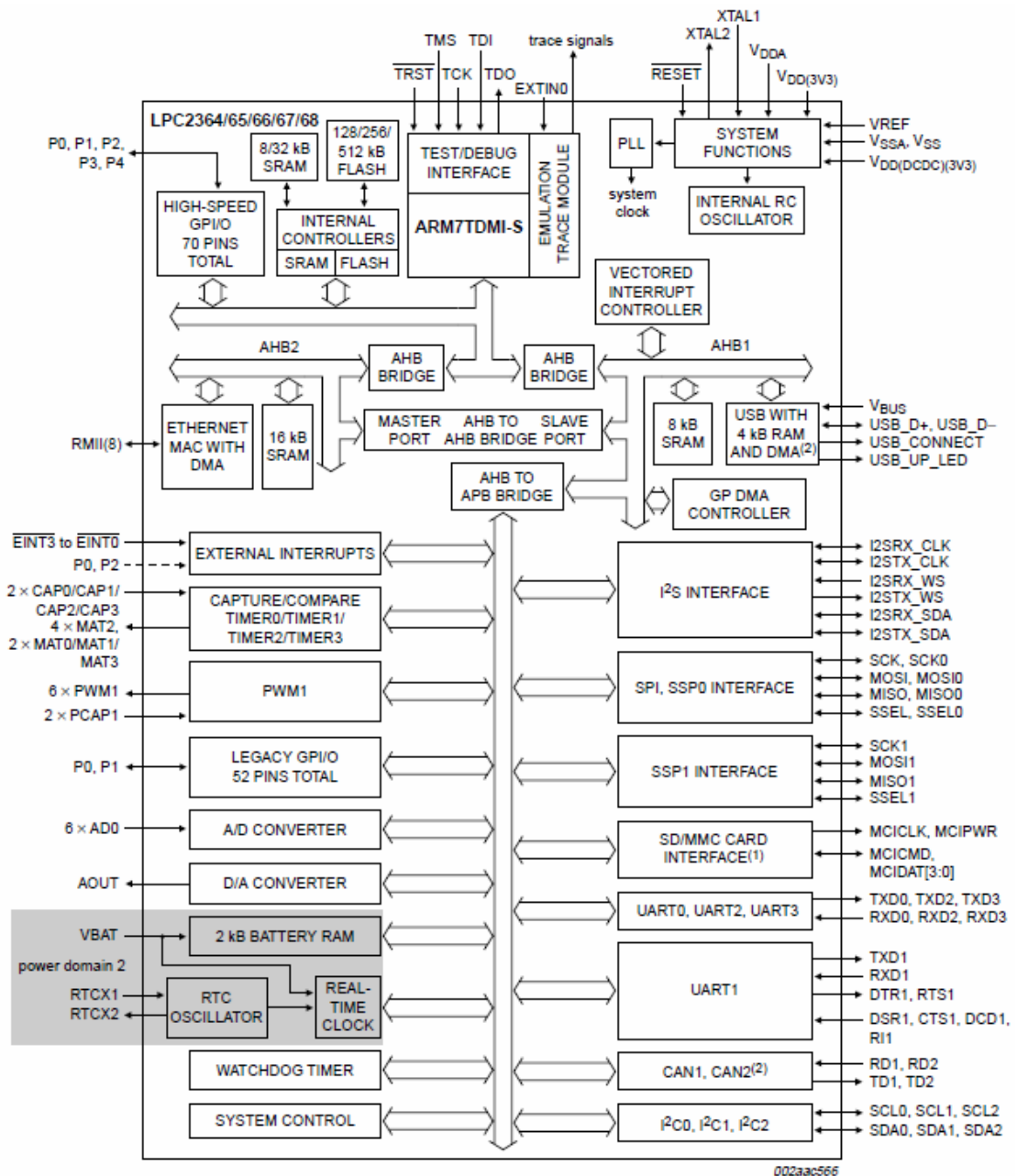# M03 descrition

1 Block diagram

2 Main IC description

M03 adopted LPC2368 of NXP.

IC Basic function description

2.1 ARM7TDMI-S processor, running at up to 72 MHz.

2.2 Up to 512 kB on-chip flash program memory

2.3 56 kB of SRAM on the ARM local bus for high performance CPU access.

2.4 USB 2.0 full-speed device with on-chip PHY and associated DMA controller

2.5 SPI controller.

2.6 10-bit ADC with input multiplexing among 6 pins.

2.7 WatchDog Timer (WDT).

2.8 Single 3.3 V power supply (3.0 V to 3.6 V).

2.9 On-chip power-on reset.

2.10 On-chip PLL allows CPU operation up to the maximum CPU rate without the need fora high frequency crystal.

2.11 IC Block diagram：

TMS TDI trace signals XTAL1
XTAL2 V_DDA
TRST TCK TDO EXTIN0 RESET V_DD(3V3)

LPC2364/65/66/67/68

P0, P1, P2, P3, P4

8/32 kB SRAM
128/256/512 kB FLASH
TEST/DEBUG INTERFACE
EMULATION TRACE MODULE
PLL
SYSTEM FUNCTIONS
VREF
V_SSA, V_SS
V_DD(DCDC)(3V3)

HIGH-SPEED GPI/O 70 PINS TOTAL
INTERNAL CONTROLLERS SRAM FLASH
ARM7TDMI-S
system clock
INTERNAL RC OSCILLATOR

VECTORED INTERRUPT CONTROLLER

AHB2
AHB BRIDGE
AHB BRIDGE
AHB1

ETHERNET MAC WITH DMA
RMII(8)
16 kB SRAM
MASTER PORT AHB TO SLAVE BRIDGE PORT
8 kB SRAM
USB WITH 4 kB RAM AND DMA(2)
V_BUS
USB_D+, USB_D−
USB_CONNECT
USB_UP_LED

AHB TO APB BRIDGE
GP DMA CONTROLLER

EINT3 to EINT0
P0, P2
EXTERNAL INTERRUPTS
I2S INTERFACE
I2SRX_CLK
I2STX_CLK
I2SRX_WS
I2STX_WS
I2SRX_SDA
I2STX_SDA

2 × CAP0/CAP1/ CAP2/CAP3
4 × MAT2, 2 × MAT0/MAT1/ MAT3
CAPTURE/COMPARE TIMER0/TIMER1/ TIMER2/TIMER3

SPI, SSP0 INTERFACE
SCK, SCK0
MOSI, MOSI0
MISO, MISO0
SSEL, SSEL0

6 × PWM1
2 × PCAP1
PWM1

SSP1 INTERFACE
SCK1
MOSI1
MISO1
SSEL1

P0, P1
LEGACY GPI/O 52 PINS TOTAL

6 × AD0
A/D CONVERTER
SD/MMC CARD INTERFACE(1)
MCICLK, MCIPWR
MCICMD, MCIDAT[3:0]

AOUT
D/A CONVERTER
UART0, UART2, UART3
TXD0, TXD2, TXD3
RXD0, RXD2, RXD3

VBAT
2 kB BATTERY RAM
power domain 2
RTCX1
RTCX2
RTC OSCILLATOR
REAL-TIME CLOCK
UART1
TXD1
RXD1
DTR1, RTS1
DSR1, CTS1, DCD1, RI1

WATCHDOG TIMER
CAN1, CAN2(2)
RD1, RD2
TD1, TD2

SYSTEM CONTROL
I2C0, I2C1, I2C2
SCL0, SCL1, SCL2
SDA0, SDA1, SDA2

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3 Bluetooth Module

3.1 Frequency range: 2.4GHz -2.48GHz unlicensed ISM band

3.2 Bluetooth Specification: V2.0+EDR

3.3 Output Power Class: Class 2

3.4 Operating Voltage: 3.3V

3.5 Host Interface: UART

3.6 Flash Memory Size: 8Mbit

3.7 Dimension: 26.9mm (L) x 13 (W) mm x 2.2mm (H)

4 Power supply

Li-ion 8.4V 1800mAh