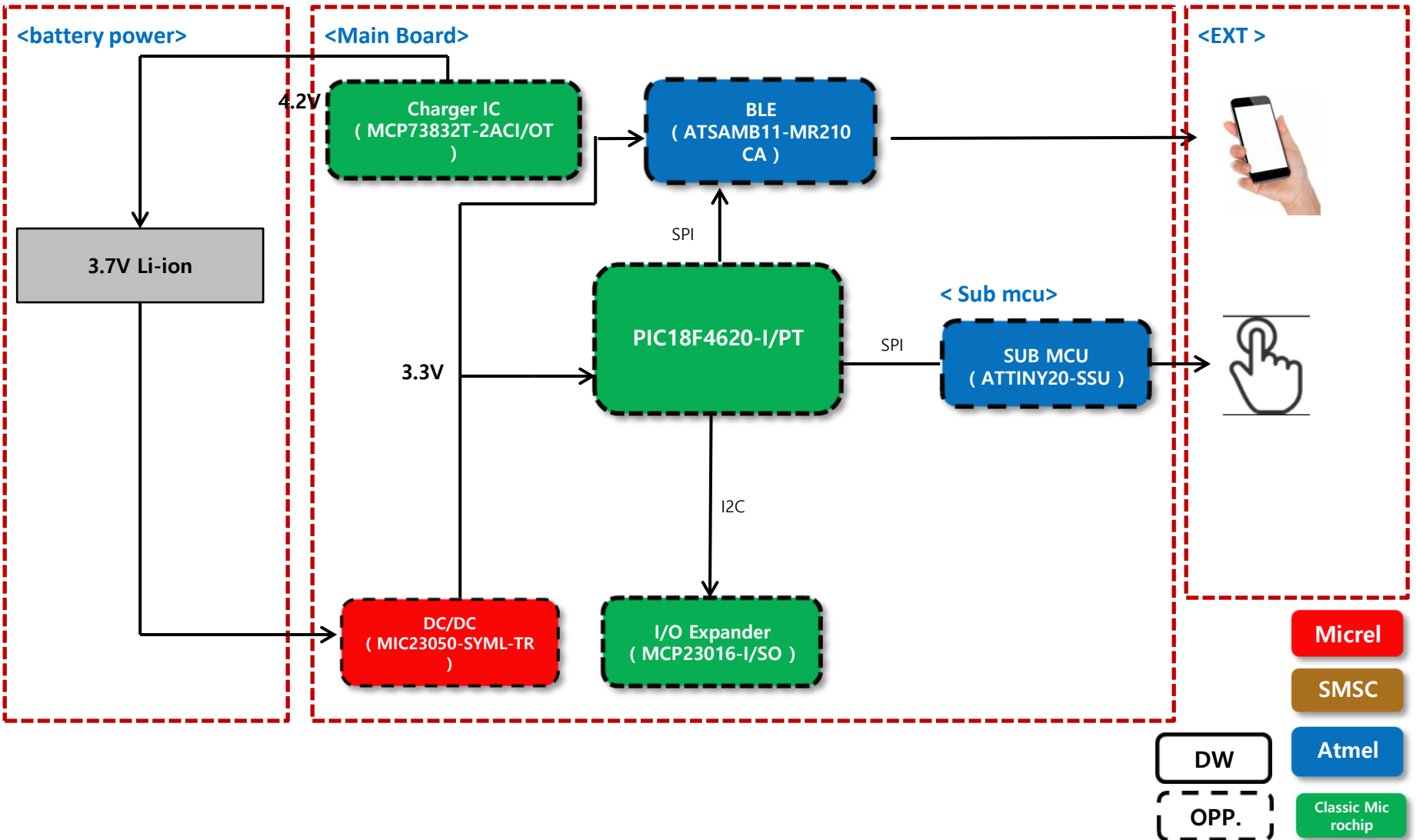


Dog Care System – Block Diagram



Dog Care System – System



- Microchip MCU, ATTINY20-SSU
 - Low-power Microchip 8-bit AVR RISC-based microcontroller
 - 128B SRAM
 - twelve general purpose I/O lines
 - 16 general purpose working registers
 - 8-bit timer/counter with two PWM channels
 - 16-bit timer/counter with two PWM channels
 - internal and external interrupts
 - 8-channel 10-bit A/D converter

- Microchip I/O Expander, MCP23016-I/SO
 - 16-bit remote bidirectional I/O port
 - Fast I2C™ bus clock frequency (0 - 400 kbits/s)
 - Three hardware address pins allow use of up to eight devices
 - High-current drive capability per I/O: ± 25 mA
 - Open-drain interrupt output on input change
 - Interrupt port capture register
 - Internal Power-On Reset (POR)
 - • Polarity inversion register to configure the polarity of the input port data
 - • Compatible with most microcontrollers
 - • Available temperature range:
 - - Industrial (I): -40°C to $+85^{\circ}\text{C}$

- ❑ Microchip BLE SoC, ATSAMB11
 - Ultra-low Power BLE 4.1 SoC
 - Cortex®-M0 applications processor
 - Bluetooth Smart protocol stack
 - L2CAP service layer protocols
 - Security Manager
 - Attribute protocol (ATT), Generic Attribute Profile (GATT), Generic Access Profile (GAP)
 - application profiles : Proximity, Thermometer, Heart Rate, Blood Pressure
 - 4x Pulse Width Modulation (PWM)
 - 4-channel 11-bit ADC

 - ❑ Microchip Battery Controller, MCP73832
 - Single Cell, Li-Ion/Li-Polymer Charge Management Controller
 - High accuracy preset output voltage regulation (+/-0.75%)
 - Output voltage options include 4.2V, 4.35V, 4.4V and 4.5V
 - User-programmable charge current

 - ❑ Microchip MCU, PIC18F4620-I/PT
 - Up to 10 MIPS Performance at 3V
 - C compiler optimized RISC architecture
 - 8x8 Single Cycle Hardware Multiply
 - An integrated LCD driver module, capable of driving 48 segments and 4 commons for LCD display (132 pixels)
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