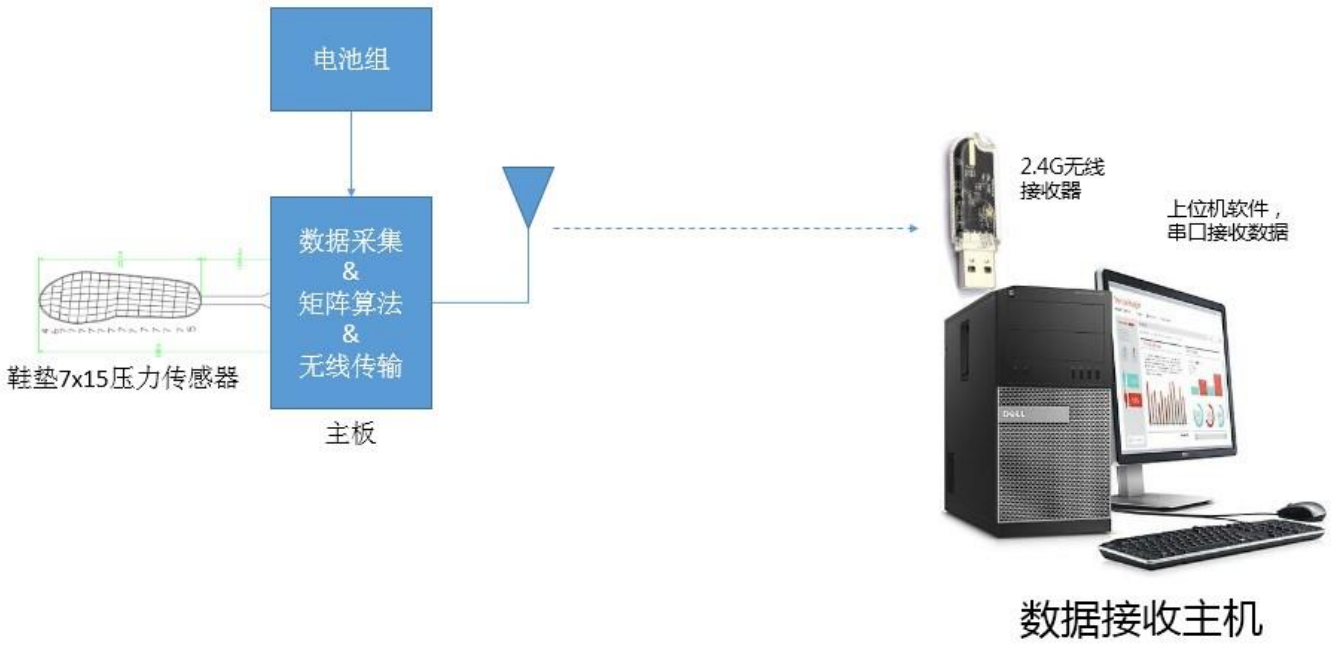
Communication protocol

一、 System instructions



二、Dongle Description

三、Communication protocol

As shown, the device board calculates the pressure information of the insole through a complex matrix algorithm and transmits it wirelessly to the PC with the receiving dongle.

Note: Sensor devices and receiving dongle are one-on-one use, do not mix. Otherwise, communication will not work properly.

2.4GHz wireless communication USB dongle, PC Device Manager will be enumerated with CH340 serial devices.

Note: Please install the CH340 driver in advance before you can communicate using the dongle.

Baud rate: 115200, 8bit data bit, 1 start ingress bit, 1 termination bit, no check.

Communication mode: single-work communication.

Since the insole matrix is 7x15 x 105 size (99 valid data), one sample is transmitted twice, with a total length of one frame of data 61byte（1 byte len + 60 byte load）。The AREA byte domain is distinguished by 'A' 'B'.

Serial frames	LEN	Load					
Bytes	1Byte	2Byte	1Byte	1Byte	56Byte		
Defined	LEN	HEAD	AREA	SeqNo.	Data0	…	Data55
Description	Data length: Fixed to 2+1+1+56=60 (0x3C)	0xAA 0x55 Represents data Begin	An insole matrix data is transmitted twice; 'A' represents the heel part of the data, 1 to 8 rows, 'B' for the foot part data, 9-15 lines (16th behavior reference voltage);	Sample sequence, full sampling of the entire insole at a time After SeqNo	The pressure value of each point; Y1/Y14/Y15 has invalid data with less than 7 sensor points, so it is supplemented by 0. Data0/6 is invalid when AREA is 'A', and Data41/42/47 none when AREA is 'B', Data48 as a percentage of battery power (1-100);Data is a debug information that can be ignored.		

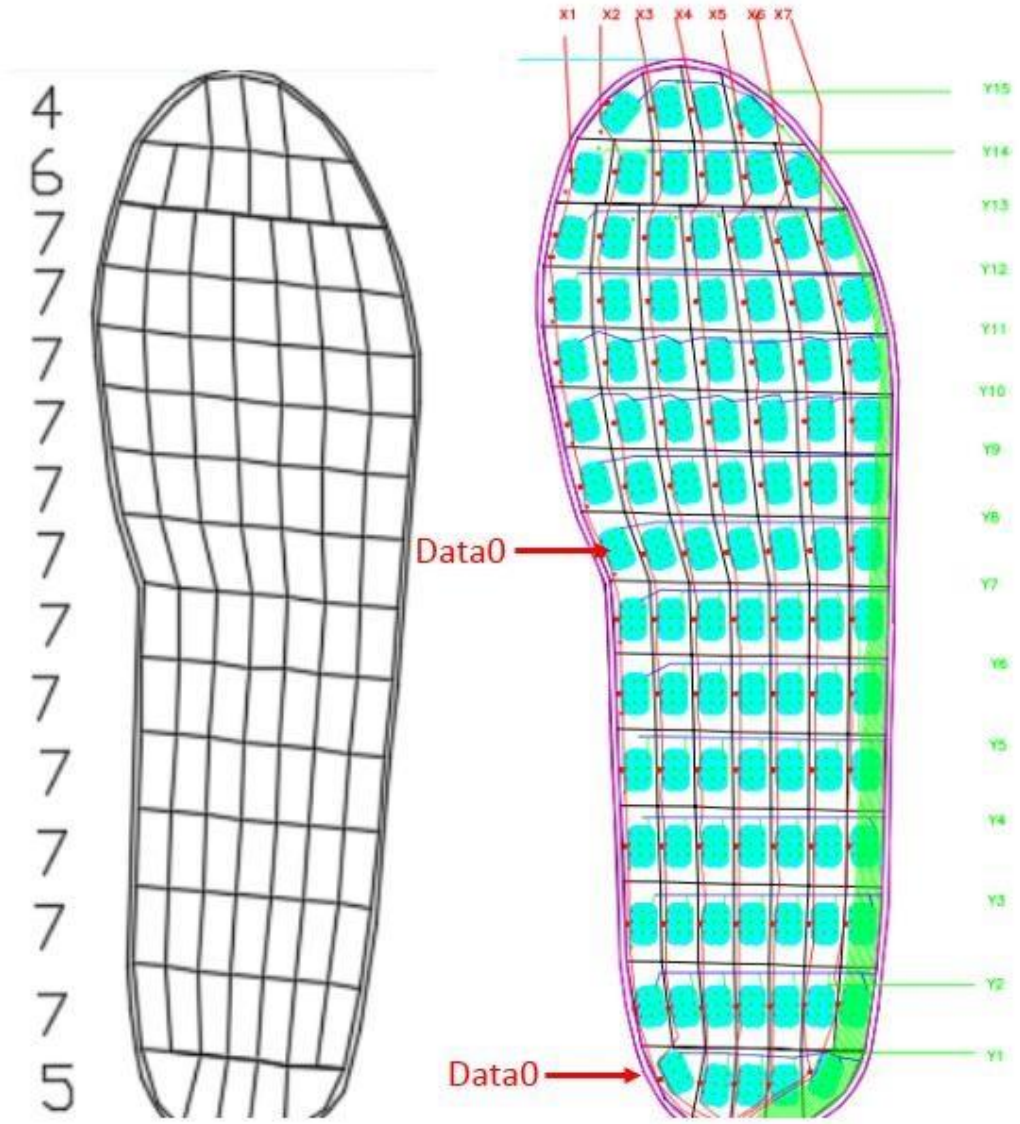
Reference data frames:

3C AA 55 41 A2 00 FB FC FD FC F7 00 00 FC FC FC FC FC 00 00 00 F5 FA FB FA 00 00 00 00 00 F8 F9 ED 00 00 00 00 F2 F9 F8 00 00 00 00 00 D9 EF 00 00 00 00 00 40 D7 00 00 00 00 00 99 E1

3C AA 55 42 A2 D2 F2 D2 C8 E6 EB E5 00 EF DF E7 EA E5 30 00 00 1A 9C 7B 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 64 A2 00 10 00 00 99 E1

四、Data correspondence for sensors

As shown below, the sensor data is calculated from the heel site to Data0.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Y12
Y11
Y10
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Y8
Y7
Y6
Y5
Y4
Y3
Y2
Y1
Data0
Data0