ADPD4200 Business Promotion

China BU

AHEAD OF WHAT'S POSSIBLE™

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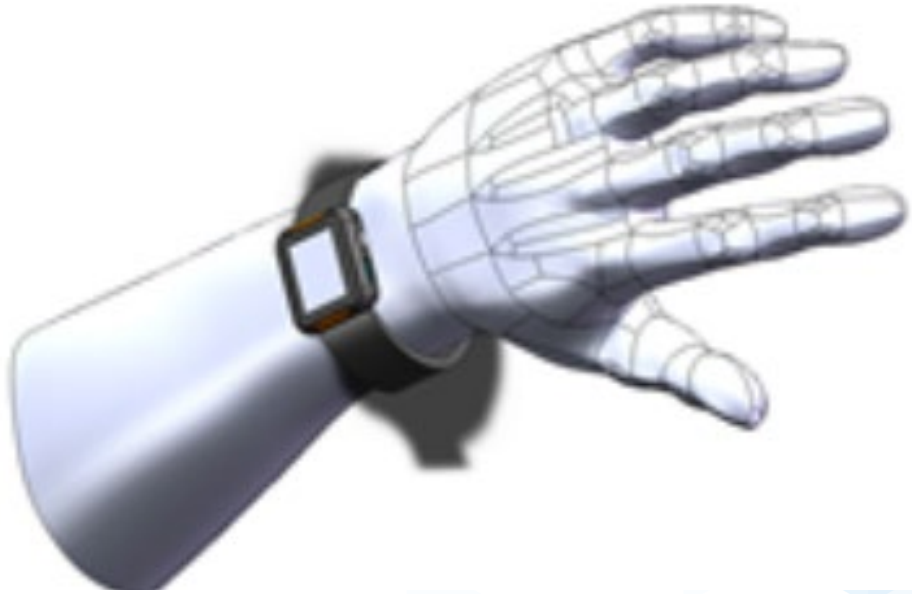
Agenda

- ADPD4200 Brief Introduction
- PPG/ECG Selling Points
- Hardware Platform
- Q&A



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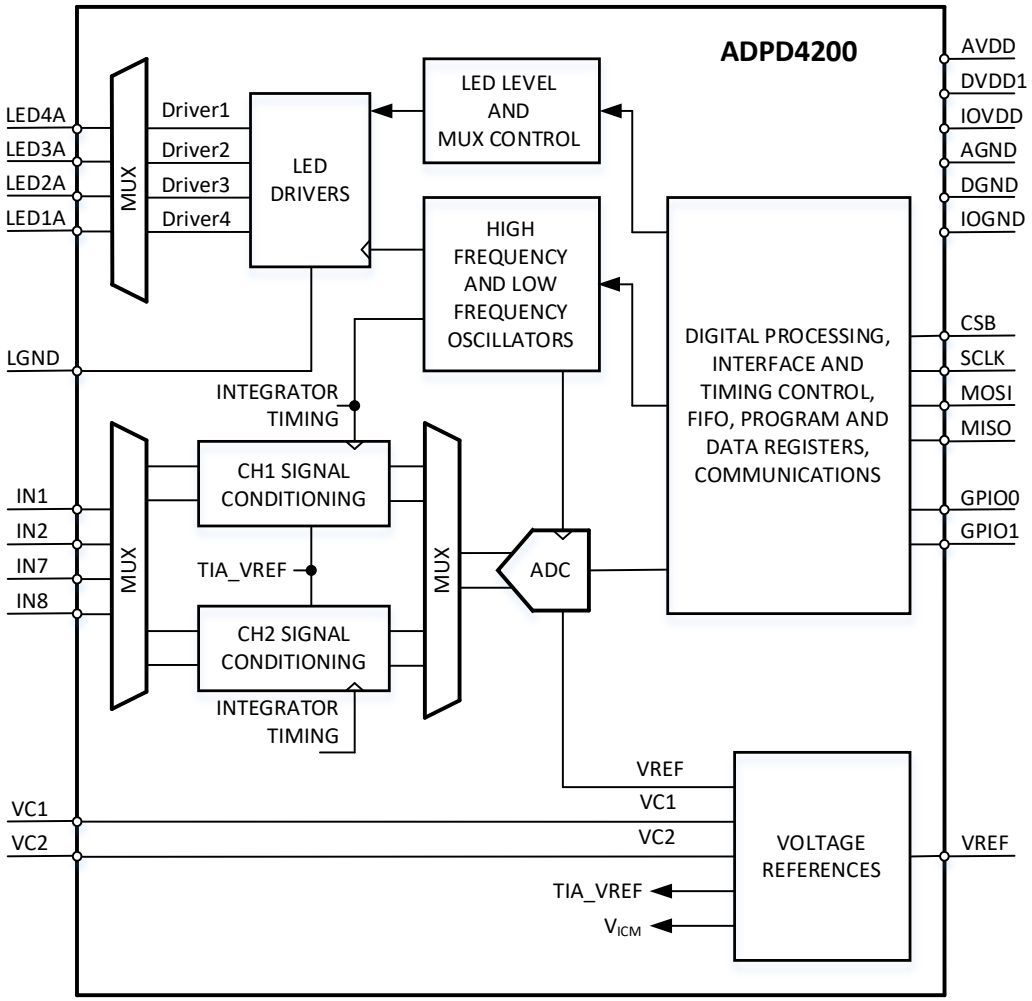
ADPD4200 Series Brief Structure



NOTES:
1. TIA_VREF IS THE INTERNAL VOLTAGE REFERENCE SIGNAL FOR THE TRANSIMPEDANCE AMPLIFIER.
2. CSB,SCLK, MOSI AND MISO ARE SPI INTERFACE PINS.

➢ PPG Optical Measurement Path

- High SNR(105dB) of TX & RX signal chain
- 400mA LED driver
- Ambient Light Rejection is 60dB up to 1kHZ
- Dual channel processing with simultaneous sampling
  12 programmable time slots for synchronized sensor measurements
  512Bytes FIFO size

➢ ECG Biopotential Measurement Path

- Tolerate up to high DC offset with float mode
- Great performance when handling signal saturation
- High Input Impedance allow the use of wide variety of Electrode
- Support lead off detection

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ADPD4200 Series Package

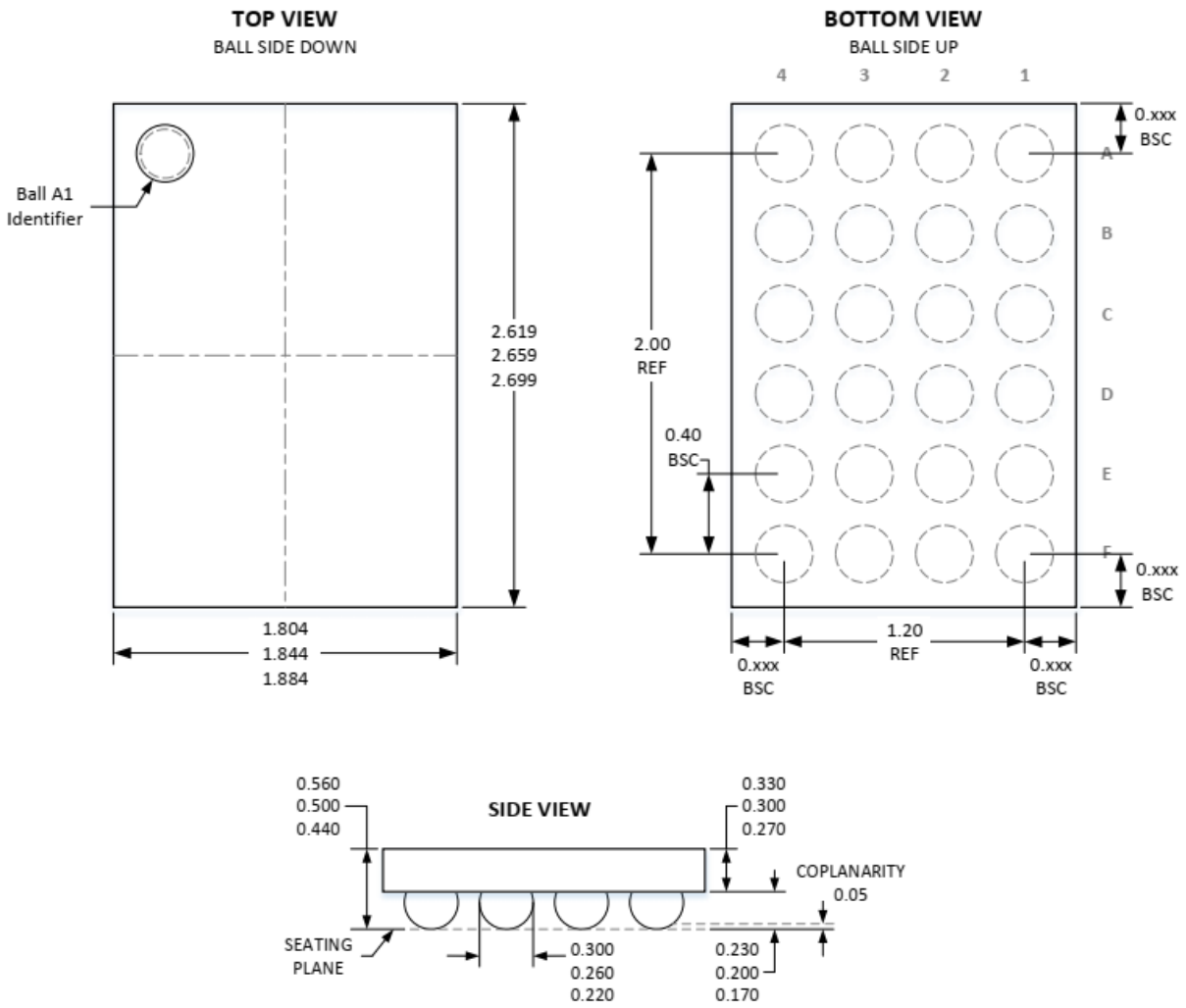

Figure 42. 35-Ball Wafer Level Chip Scale Package [WLCSP]
(CB-24-1) [TBD]
Dimensions shown in millimeters

AFE for PPG+ECG Measurement

- With superior PPG and ECG signal path
- Small form factor enables flexible layout & stack up.
- 0.4mm pitch

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Selling Points for Wearable Devices

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PPG – Selling Points for Wearable Devices

Superior Performance	➢ Ambient Light Rejection is > 60dB up to 1kHz ➢ Extremely High SNR of TX & RX signal chain, up to 105dB
Capable of Storing Calibration Data	➢ Additional Fuse space to store light calibration data, no extra load is needed, lower system complexity
Unique & Flexible Structure	➢ 12 programmable time slots for data synchronizing, critical for algorithm. ➢ Flexible input multiplexing, sampling rate from 0.004 Hz to 9 kHz
Optical Placement Guidance	➢ Provide optical design/layout simulation guidance before official design

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ECG – Selling Points for Wearable Devices

Capability for Dry Electrode	➢ Tolerate up high DC offset, which provides better dynamic range. ➢ Flexible float more handle signal without saturation
Lead-off Detection	➢ Lead-off: Lead-off could be achieved through circuit configuration, indicating abnormal status when electrodes fall-off. This is realized through capacitance relevant parameters measurement.
Flexibility for system design	➢ Capable of handling different scenario case to avoid better adopt to dedicated target signal.
Data Synchronization	➢ Easy to synchronize with PPG data through timeslot, smart for algorithm.

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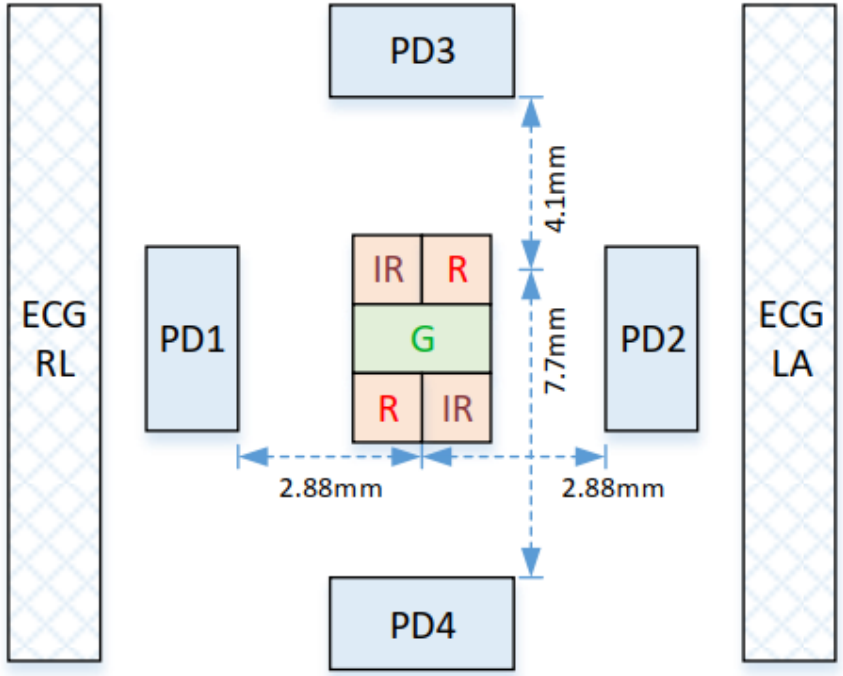
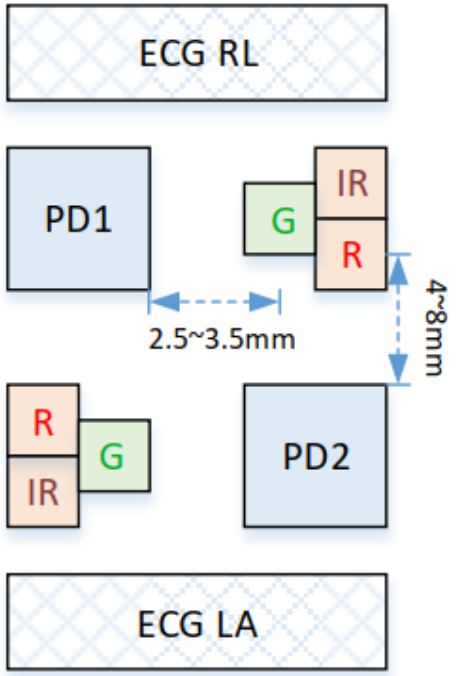
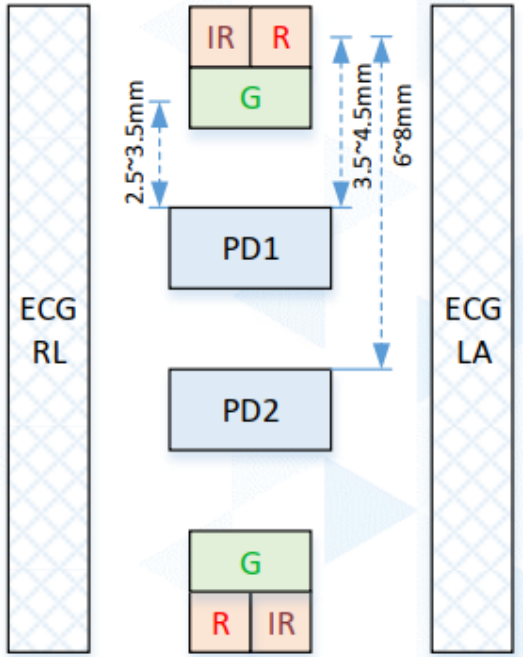
Example：Provide Placement Guidance







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VSM Hardware Platform

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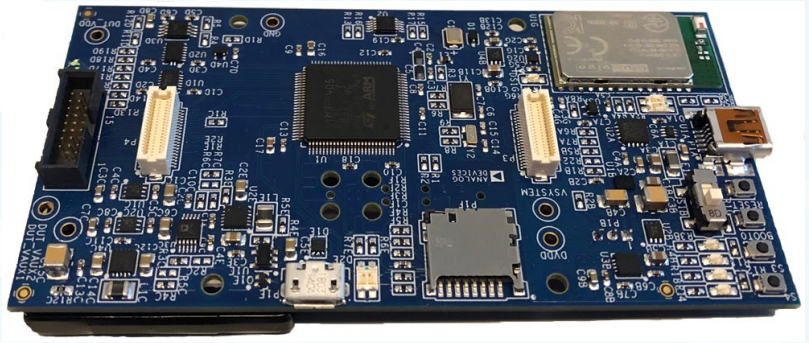
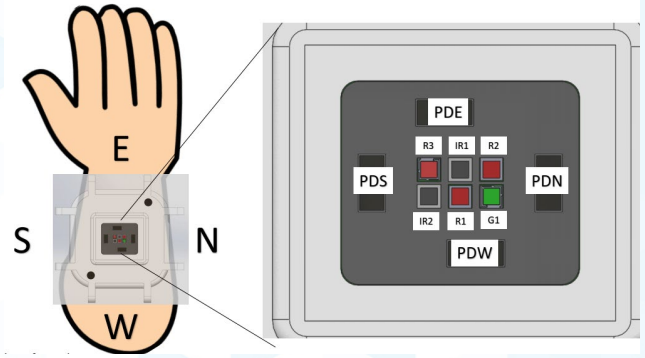
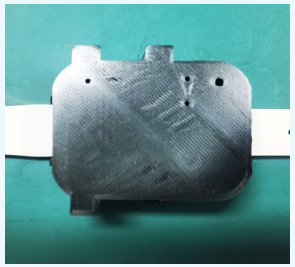
Current System Solutions & demo

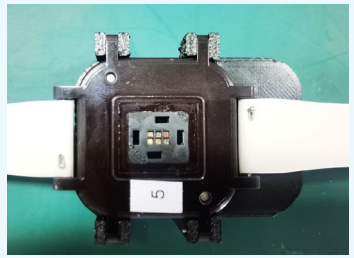
- Sensor-board
- Main-board (Controller)



- SwO2 verified its in official lab
- Multi-spectrum







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Q & A

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