Waveform Signal Processing

ECG (Electrocardiogram)

- Sampling: 250-500 Hz
- P, QRS, T wave detection
- Arrhythmia classification
- R-R interval calculation

EEG (Electroencephalogram)

- Sampling: 256-512 Hz
- Frequency band analysis
- Artifact removal
- Seizure detection

Signal Processing Pipeline

Raw Signal

Contains Noise

1 Preprocessing

Bandpass Filter
(0.5-40 Hz)

2 Noise Removal

Notch Filter
(60 Hz)

3 Feature Extraction

Peak Detection, FFT

4 Normalization

Z-score Normalization