Opto-physiological sensor and method: selecting a wavelength for a PPG sensor [2527974]

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Selecting a wavelength of light to use in an opto-physiological sensor, the sensor comprising multiple light source channels wherein each channel comprises two or more light sources which are configured to generate light at the same wavelength, comprises: setting a channel quality value for a channel to zero; determining for each light source whether the source is enabled; incrementing the channel quality value for the channel by one for each source that is determined to be enabled within the channel, comparing the channel quality value to a predetermined threshold; and disabling the channel if the quality value does not exceed the predetermined threshold. Determining the signal quality value may comprise measuring AC signal amplitude, DC signal amplitude, the time interval between peaks or troughs in the signal, and/or the AC/DC ratio.

**PROCESS ALL CHANNEL SIGNALS**

1. **START**
2. ChanQ = 0
3. **S1g 1 ENABLED?**
   - yes: ChanQ = ChanQ + 1
   - no: Continue
4. **S1g N ENABLED?**
   - yes:ChanQ = ChanQ + 1
   - no: ChanQ > threshold?
     - yes: Enable channel light sources
     - no: Disable channel light sources
5. **END**

**FIG. 7**