ADI HRM Algorithm LCFG Guide
Version 1.0.0

Revision History

Date (YYYY-MM-DD)	Notes
2021-05-12	Initial Document

Contents

Library Configuration (LCFG) for ADI HRM Algorithm

These parameters are already tuned for best performance of the ADI HRM algorithm

Element	Description
spotalgosamplerate	Sampling rate: int16_t This is the data sampling rate used for the spot algorithm. This is fixed at 50Hz and should not be changed. This parameter is not used currently.
spotalgodecimation	Decimation factor: int16_t The internal decimation factor used by algorithm for the incoming data. The value is fixed at 6 and should not be changed. This parameter is not used currently.
mindifftrackSpot	Minimum difference between Track and Spot HR output: int16_t This value is to determine the closeness of the tracking HR to the spotHR. If the difference is lesser than this value, the value of the HR from tracking algorithm is output. The value set in this release is 4. This parameter is not used currently.
initialconfidencethreshold	Confidence Threshold: int16_t The tracking algorithm returns a measure of the correctness of the HR estimation after each sample is processed. If the returned confidence is beyond this initial value, the system switches the spot algorithm and uses the tracking algorithm for further HR estimation. The value used now is 70% (equivalent to 716 in 6.10 fixed point format)
ppgscale	Scaling value of PPG signal: uint32_t This is scaling value used for the incoming PPG signal. It is fixed at 3200 and should not be changed.
accelscale	Scaling value of accelerometer: int16_t This is scaling value used for the incoming accelerometer signal. It is fixed at 4194 and should not be changed.

spotstabilitycount	Stability count for spot algorithm: int16_t When the spot algorithm HR output is close to the tracking algorithm, this value is used to measure its stability over a range of samples, before switching to the tracking HR output. This parameter is set to 5 seconds. This parameter is not used currently.
spothrtimeoutsecs	Timeout for spot algorithm: int16_t This is the maximum amount of time that the spot algorithm is run initially before switching to only tracking algorithm. The value is set to 15 seconds. This parameter is not used currently.
zeroorderholdnumsamples	Number of hold samples for tracking algorithm: int16_t This is an internal parameter to determine the iterations for algorithm for each sample. This value is fixed to 1 and should not be changed.
trackalgosamplerate	Tracking algorithm sampling rate: int16_t This parameter is not used currently.
trackhrtimeoutsecs	Timeout for tracking algorithm: int16_t This parameter is not used currently.
spotwindowlength	Amount of data analysed by algorithm for heart rate estimation: uint32_t This is set to 5000ms This parameter is not used currently.
trackerminheartratebpm	Minimum heart rate tracked: uint32_t This set to 30 This parameter is not used currently.
hrvEnable	Whether hrv is enabled: uint8_t Enabled by default