ADI HRM Algorithm LCFG Guide

Version 1.0.0

Revision History

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

Contents

[Revision History 2](#_Toc71826154)

[Library Configuration (LCFG) for ADI HRM Algorithm 4](#_Toc71826155)

# 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 |