



PPG-1R-525

Reflectance Green Light Heart Rate Module

Works with the AECG100 main console or SECG 5.0 AIO Multi Vital Sign Simulator as the reflectance heart rate performance tester designed for R&D in manufacturers

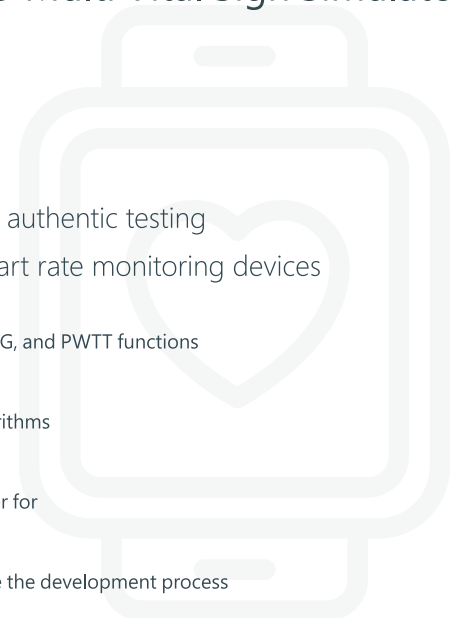
Outputs green light analog signals to test the heart rate function

Allows users to adjust the rate of change of respiratory signals in PPG for more authentic testing

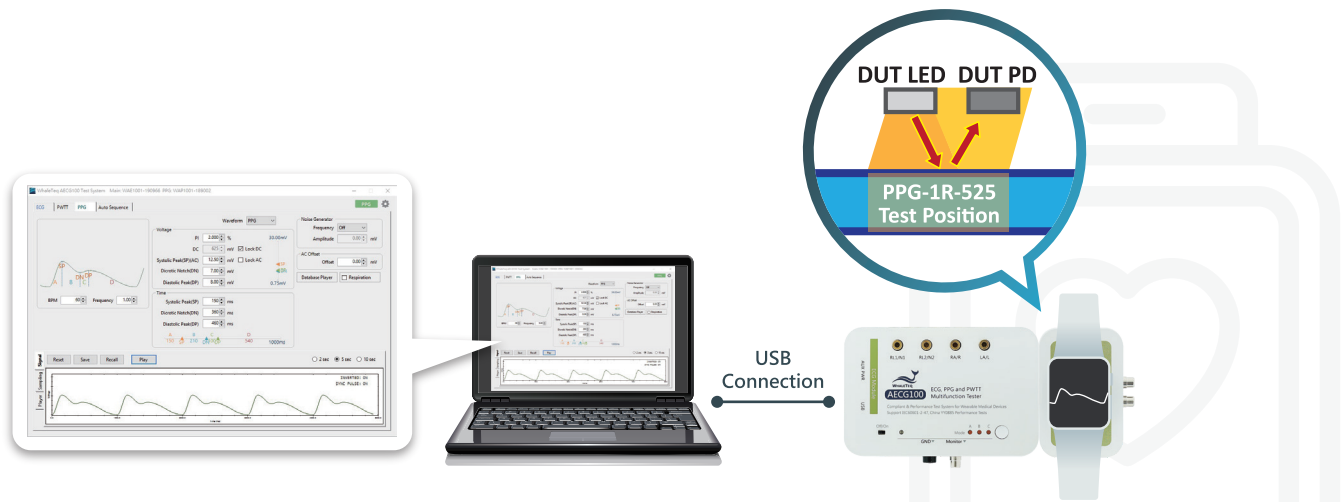
Suitable for the development of reflectance PPG products such as wearable heart rate monitoring devices

- Works with the AECG100 main console or SECG 5.0 AIO Multi Vital Sign Simulator to test heart rate, ECG, PPG, and PWTT functions
- Outputs green light analog signals to simulate PPG signals
- ECG function with adjustable PWTT parameters to verify the accuracy of blood pressure measurement algorithms
- Respiratory variation simulation – add-on signals for more authentic testing
- Equipped with Auto Sequence function – sorts the parameters of different test items into a designated order for automated testing while eliminating the need to develop automated testing programs
- Raw data playback – plays recorded raw data or customized waveforms for repeated verification to facilitate the development process
- Provides SDK supporting multiplatform for users to flexibly develop automated testing programs
- Equipped with RCA to BNC ports to connect to an oscilloscope – outputs amplified and stable signals for viewing the voltage of AC analog signals of green light, optical signals received by the PPG-1R-525, and the switch status of green LED of DUT
- Adjustable PPG waveform characteristic points, such as the Systolic Peak (SP), Dicrotic Notch (DN), and Diastolic Peak (DP), in a wide range and precise values for flexible test settings*
- Allows users to configure noise with adjustable frequencies and amplitudes to output with PPG signals for testing*

*Note: Only available when paired with the AECG100.



• PPG-1R-525 Testing Scenario



(The image illustrates the testing scenario of the PPG-1R-525 and AECG100.
Please refer to the user manual for detailed installation and instructions when using PPG-1R-525 with AECG100 or SECG 5.0 AIO.)

• Specifications
PPG Mode ⁽¹⁾

| Parameters | | Specifications |
|----------------------------------|-------------------|---|
| Heart Rate | Setting Range | 10 ~ 300BPM |
| | Minimum Step Size | 1BPM |
| | Accuracy | ±1BPM |
| LED DC Level Reference Output | Setting Range | 100 ~ 3000mV |
| | Minimum Step Size | 1mV |
| LED AC Level Reference Output | Setting Range | 0.75 ~ 30mV |
| | Minimum Step Size | 0.01mV |
| Lumen | Setting Range | 50 ~ 925 Lux (full range) (5mm from diffusion film) |
| | Resolution | (1 / 3000) full range |
| | Accuracy | ±6% |
| LED Light Wavelength | Range | 525nm |
| | Accuracy | ±10nm |
| LED Scan Rate | Rate | 50 ~ 40kHz (Normal mode / Standalone mode) ⁽²⁾ ; 10kHz (Raw data mode) |
| | Accuracy | ±5μs |
| PD Sample Rate | Rate | 250kHz (single channel) |
| | Accuracy | ±5μs |
| PD Response Time | Rising | 1μs Typical (varies from DUT LED intensity) |
| | Falling | 1μs Typical (varies from DUT LED intensity) |

Note:
(1) Applicable when used with the AECG100 only.
(2) The standalone mode refers to the scenario where the user conducts tests using the three test modes stored in the AECG100 main unit without activating the AECG100 software.

• Ordering Information
Heart Rate Module

| Part No. | Description | Quantity |
|-------------|---|----------|
| 100-AE00002 | Model No.: PPG-1R-525 Model Name: Reflectance Green Light Heart Rate Module | 1 |

Compatible Products

| Part No. | Description | Quantity |
|-------------|--|----------|
| 100-AE00001 | Model No.: AECG100 The main console unit for ECG testing. | 1 |
| 100-EC00002 | Model No.: SECG 5.0 AIO Model Name: Multi Vital Sign Simulator The standalone ECG simulator with 12 leads (RA, LA, LL, N, V1 - V6) output for ECG performance tests. | 1 |

Optional Calibration Service and Warranty Extension

| Part No. | Description |
|----------|--|
| YY0007 | Model No.: C3 Provides (3) years of calibration service coverage. WhaleTeq equipment can be calibrated to original performance on the basis of (1) year interval. |
| YY0008 | Model No.: R3 Extends the limited warranty from (1) year to (3) years. |

PWTT Mode

| Parameters | | Specifications |
|---------------------------------|-------------------|--|
| Time Difference (PTTp, PTTf) | Setting Range | 0 ~ 5999ms (for the heart rate setting as 10BPM. As the heart rate value increases, the setting range of time difference will decrease accordingly.) |
| | Minimum Step Size | 1ms |
| | Accuracy | ±1ms |

