

Life Signal™ Patch

HP12xx

Small form factor, low-power & wearable ready.

HMicro's Life Signal™ Patch is a fully disposable multi-parameter biosensor worn on the chest for collection of physiological data in clinical and remote monitoring settings. This reference design product is available for partners to utilize and develop upon.



Physiological signals can be captured and processed within the Life Signal™ Patch HP111x, and wirelessly transmitted to a destination receiver device for display or analysis.

Physiological signals currently monitored include multi-lead ECG, respiration rate and ECG derived heart rate. Additional vital signs parameters will be added in future releases.

For hospital and clinic monitoring applications the Life Signal™ Patch can continuously communicate with a patient monitor over multiple days via a receiver device, such as HMicro's Life Signal™ Monitor Receiver (HR1110) reference product design. This essentially forms a “wireless cable” between the patient body and vital signs monitor without compromising the quality of clinical monitoring.

For ambulatory, remote monitoring and cloud-based applications, the Life Signal™ Patch can communicate with Wi-Fi enabled devices (such as smart phones, tablets and access points) directly via built-in Wi-Fi connectivity or by using a LSP™ chip based storage and relay device such as HMicro's Life Signal™ Mobile Receiver reference product design (HR1120).

The LSP™ Platform offers the advantage of using multiple radio types for robust wireless connectivity in congested network environments. Our hybrid radio architecture combines narrowband (Wi-Fi/MBAN) and ultra-wideband (UWB) radios that dynamically switch modes to reliably maintain a consistent low-energy wireless link between the biosensor and the receiver. The availability of many channels in the UWB frequency band allows monitoring of many patients in healthcare settings where heavy wireless traffic is typical.

The HP111x Life Signal™ Patch is ready for high volume production through HMicro's world-class contract manufacturing partner or may be modified by OEM partners for custom applications.

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Target Applications

- Hospital & clinic based continuous vital signs monitoring
- Hospital post-discharge tracking
- Ambulatory cardiac monitoring
- Telehealth and telemedicine remote monitoring
- Clinical trials
- Consumer fitness and wellness monitoring

Key Features

- Lightweight and unobtrusive form factor that is comfortable for the patient to wear (measuring 110mm x 80mm x 6mm)
- Low cost disposable patch solution is enabled by HMicro's LSP™ system-on-chip with fully integrated sensor signal acquisition, processing, and wireless transmission capabilities
- Multi-band/multi-radio tolerates congested wireless environments and provides robust and secure wireless monitoring
- Wireless connection range of up to 25 meters
- Clinical signal processing and storage capability
- Zinc-Air coin battery technology with run time of up to 5 days
- Integrated software for signal acquisition, wireless connectivity, and system operation