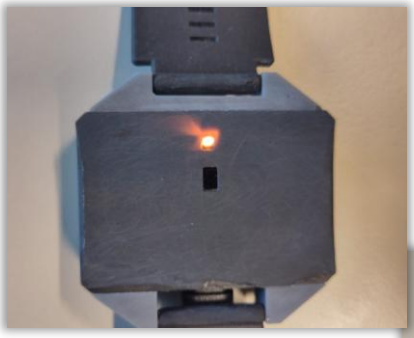
NibbleBeat™ 2.0

ChipSense™ Evaluation Device





Biomarkers/Vital-Signs spot-check or limited continuos[1] hyperspectral fingerprint data capturing device, including:

- Hyperspectral Sensor ChipSense™ 2.x
- Electronics
- Light source and optics

Available in various wavelength range configurations to be specified at product ordering.

Compatible with BeatByte™ (Windows-based real-time data acquisition and visualization software)

Parameter	Unit	Specifications
Nibble PCBA version		2.0 Final
Typical use case/application		Biomarkers/Vital Signs Spot-Check or limited continuos data collection
Certifications		CE/FCC (see Remark 1)
Optical Sensing Mode		Reflection
Product Assembly Configurations		Complete
ChipSenseTM product on-board		2.1-16
Wavelength range configuration options		VIS/NIR/NIR-BP/ SWIR/Full Range
Wavelength range configuration VIS	nm	500 - 950
Wavelength range configuration NIR	nm	850 - 1700
Wavelength range configuration NIR-BP	nm	850-1100
Wavelength range configuration SWIR	nm	1100 - 1700
Wavelength range configuration Full Range	nm	550 - 1700
Light Source Type		Tungsten-based filament
Light Source max power consumption	W	0.575
Max Light source optical power density	mW/cm2	10
Light Source dimmable		yes, 64 levels
Light Source lifetime	h	40.000
Light Source Operation Mode		Current driven, Continuous/Triggered
Signal acquisition method		Sequential
Acquisition Time per Channel Range	ms	0.5-192
Optical window dimension	mm	20x14
On-Device User Interface		na
Wired Connectivity		USB-C / 6 pole SH
USB-C Protocol		USB serial port (115.2 kbps to 921.6 kbps)
Wireless Connectivity		Wi-Fi (2.4 GHz)
Power supply		DC (USB) or External Battery
Voltage Supply	V	3.7 - 5.1
Current Consumption Stand-by	mA	60 (Radio Disabled) 130(Radio Enabled)
Current Consumption Light Source on at Max Power	mA	na
Size (l x w x h)	mm	53 x 53 x 17
Recommended Operating Temperature	°C	10 - 40
Operating temperature	°C	0 - 50
Accessories delivered in package		USB-C Cable
Software companion		SpectraByte, SpectraWeb, FW update tool
Remarks		1 - WiFi not certified CE/FCC
Remarks		2 maximum continuous exposure 10 minutes in default light power (see user's Manual for details)

Copyright © MantiSpectra B.V. 2026, All rights reserved

Legal and Application Notice

Product specifications and documentation may be changed without notice, including changes intended to improve reliability, functionality, performance, manufacturability or design.

MantiSpectra B.V. (“MantiSpectra”) believes the information provided in this datasheet and related product documentation to be accurate and reliable at the date of publication. However, to the maximum extent permitted by applicable law, MantiSpectra does not accept responsibility for errors, omissions or inaccuracies.

Development kits, evaluation boards, reference designs, software and firmware are intended for evaluation, development and demonstration purposes unless expressly stated otherwise. They are not qualified end products and should not be relied upon as such

Copyright © MantiSpectra B.V. 2026, All rights reserved