HAIP

PRODUCT DATA SHEET

BLACKMOBILE V2

500 - 1000 nm

Pushbroom Linescan

Single Shot

HSI

500 - 1000 nm

VNIR

4K

RGB

GPU

Integrated

Smile & Keystone Correction

Integrated LED panel



HAIP Solutions BlackMobile V2 is a portable hyperspectral imaging system designed for fast and intuitive on-site imaging. Combining VNIR hyperspectral imaging with integrated broadband LED illumination and a 4K RGB camera, it enables reliable data acquisition without external setup. With its integrated touchscreen, on-device processing and user-friendly interface, the BlackMobile V2 makes hyperspectral imaging accessible for field applications, research and rapid material analysis.

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REVISION 260512

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BLACKMOBILE V2

The BlackMobile V2 enables hyperspectral imaging outside of laboratory environments by combining sensor, illumination and data processing in a single handheld device. The integrated broadband LED illumination ensures stable and uniform lighting conditions, eliminating the need for external light sources during data acquisition. Designed for ease of use, the system features a large touchscreen interface that guides users through the measurement process and allows direct visualisation of spectral data.
Spectral information can be captured, processed and evaluated directly on the device in a single-shot measurement, enabling fast decision-making in the field without the need to move the system or sample. Data acquisition can be performed in tripod mode at full pixel resolution or in handheld mode at reduced resolution for quick measurements. With a VNIR spectral range from 500 to 1000 nm, 100 spectral bands and a high spatial resolution, the BlackMobile V2 supports a wide range of applications, from material identification to quality assessment. The integrated 4K RGB camera enables simultaneous visual documentation and characterisation of the operating environment. Its compact and self-contained design makes the system particularly suitable for mobile use, allowing hyperspectral imaging to be performed quickly and reliably without complex setup or prior expertise.

FEATURES

Portable hyperspectral imaging system
VNIR spectral range: 500–1000 nm
Simultaneous RGB and HSI acquisition
100 spectral bands
High signal-to-noise ratio in NIR range
Integrated GPU
Integrated broadband LED illumination
Intuitive touchscreen interface (7")
No external setup required
Compatible with BlackStudio Industry software

APPLICATIONS

MOBILE DATA AQUISITION

Field-based material analysis
Research and laboratory support
Agriculture and plant analysis
Food inspection and quality control

INTEGRATED ILLUMINATION

The BlackMobile V2 does not require external illumination sources, as it features an integrated broadband VIS/NIR high-power LED array and enables true portability in hyperspectral image acquisition.



Front view of the BlackMobile V2 with LED broadband illumination

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BLACKMOBILE V2

OPTICS	
HSI RESOLUTION	1280 x 960 px
RGB RESOLUTION	3840 x 2160 px
SPECTRAL RANGE	500 - 1000 nm
SPECTRAL SAMPLING	5 nm
SPECTRAL RESOLUTION	5 nm
FIELD OF VIEW	22 x 16.5 cm (at 50 cm)
WORKING DISTANCE	Approx. 50 cm

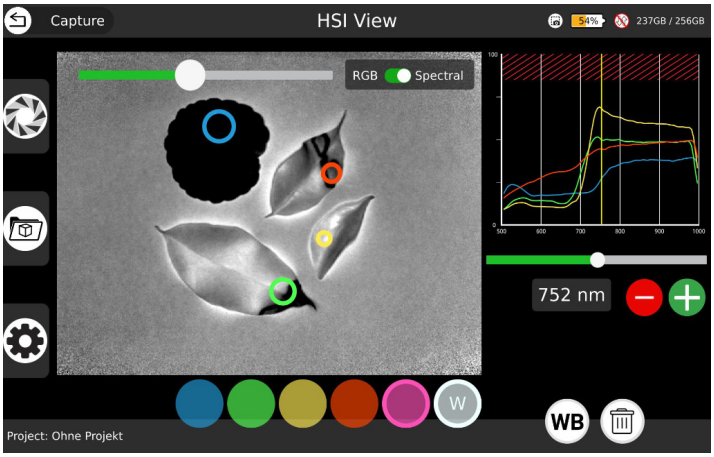
ELECTRONICS	
SENSOR TYPE	CMOS
RADIOMETRIC RESOLUTION	10 bit
INTEGRATION TIME (CUBE)	< 3 seconds
DATA SIZE (RAW)	250 MB / Data cube
CONNECTION	USB-C, USB-A, WIFI
POWER CONSUMPTION	20 V / 5 A USB-C PD

MECHANICS	
DISPLAY SIZE	7" LCD
DISPLAY RESOLUTION	1200 x 1920 px
TRIPOD MOUNTING	1/4-20 UNC
HOUSING	Aluminium & plastic handles
TEMPERATURE (OPERATION)	0 - + 30°C
SIZE	250 x 165 x 70 mm
WEIGHT	2 kg

ILLUMINATION TECHNOLOGY	Broadband VIS/NIR High Power LED
ILLUMINATION OPERATION	Automatically switching
NUMBER OF LEDS	70
LED TYPE	Broadband VIS/NIR LED
BATTERY CAPACITY	70.5 Wh

HSI VIEW

The screenshot on the right shows the HSI View window of the BlackMobile V2.
For ease of use, it is possible to switch between an RGB representation of the HSI image and the spectral view in greyscale. Up to five regions of interest (ROIs) can be placed within the HSI image, indicated by coloured markers. The displayed intensity in greyscale of a specific wavelength can be adjusted using a slider or by pressing the +/- buttons.



Screenshot from the marker panel of the BlackMobile V2 user interface

ORDER INFORMATION

Use product number 3026 to order a BlackMobile V2 by HAIP Solutions.

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