SPECIM IQ

HYPERSPECTRAL GOES MOBILE

reddot design award
winner 2018

SPECIM IQ
DATA SHEET

Specim IQ is a portable carry on hyperspectral camera that contains features needed for hyperspectral data capturing, data processing, and result visualization.

MAIN FEATURES

- Spectral camera
- Viewfinder camera
- Scanner & motor
- Embedded data processing unit
- Operating software for data acquisition and processing
- Replaceable data storage
- Touch screen display and physical buttons
- Rechargeable battery power supply

MAIN FUNCTIONALITIES

Operational modes	Default recording mode Automatic Screening mode Application mode (user definable) Time lapse mode Remote usage
User adjustments	Integration time adjustment Focus adjustment (manual) Metadata and tag addition
Data format	Specim Dataset with ENVI compatible data files
Data export	With SD card, through USB or WiFi connection
Operational time	Appx. 100 measurements with one SD card and battery

TECHNICAL HW SPECIFICATIONS

DEVICE OPERATION

User interface SW	by Specim

DEVICE HARDWARE

Viewfinder camera	5 Mpix
Focus camera	1.3 Mpix
Spectral camera	by Specim
Sd-card reader	UHS-1 SD (Max. 32 GB SD memory card)
Processor	NVIDIA Tegra K1
Cpu	Kepler Mobile
Memory	2GBytes DDR3L RAM and 8GB Emmc
Gps module	U-BLOX GPS/GNSS MAX-M8Q-0
Operating voltage	3.7 V
Battery	5200mAh Li-Ion battery (Type 26650)
WiFi	IEEE Std 802.11 b / g / n

USER INTERFACE

Buttons	12+1 physical buttons
Display & keyboard	4.3” touch screen
Buzzer	Indication sounds for the user
Usb connector	USB Type-C

DIMENSIONS

Size	207 x 91 x 74 mm (depth with lens 125,5 mm)
Weight	1.3 kg

SPECTRAL CAMERA SPECIFICATIONS

OPTICAL

Wavelength band	400 – 1000 nm
F/number at Sensor	F/1.7
F/number at Slit	F/2.2
Magnification (Sensor / slit)	1/1.3
Keystone	Corrected
Smile	Corrected
Spectral resolution	7 nm
Slit Length	11.70 mm
Slit Height	42 µm

SENSOR

Sensor type	CMOS
Spatial Sampling	512 pix
Spectral Bands	204 (with Bin 2x: 102, Bin 3x: 68)
Image resolution	512 x 512 pix
Pixel size	17.58 µm x 17.58 µm
Data output	12 bit
QE peak	>45 %
Full-well capacity	>32000 e-
Peak SNR	>400:1

OBJECTIVE / FRONT LENS

Object distance	150 - ∞ mm
Focal length	21 mm
F/number at Slit	F/2.2
Full field of view (FOV)	31 x 31 deg
Full field of view (FOV) at 1 m	0.55 x 0.55 m
Filter thread	M40.5 x 0,5

ENVIRONMENTAL SPECIFICATIONS

DEVICE OPERATION

IP classification	IP5x
Temperature, operational	+5°C - +40°C
Temperature, storage	-20°C - +50°C
Humidity operational	95% non-condensing

STANDARDS

Shock	STD-810G Method 516.6 Precedure VI
EU directive	Radio Equipment Directive 2014/53/EU.