TERRARAD TECH

TerraRad Tech
Portable L-band Radiometer (PoLRa) v5E “Extreme”

Specifications

Weight	4.9 kg
Dimensions	35.4 x 63 x 13 cm
Power Requirement	4 W[1]
Field of View	35º Horizontal and Vertical symmetric[2]
Polarization	Dual Linear (Horizontal & Vertical)
Sample Rate	10 Hz[3]
Radiometric Resolution	0.14 K at 1 sec integration
Absolute Calibration Uncertainty	0.6 K at 200 K
Soil Moisture Accuracy	≈ 2% Vol.
Interference Immunity	>60 dB out of band[4]
Operating Band	1400-1427 MHz
Transmit Power	0 mW (passive only sensor)
Connectivity	Wifi and Bluetooth (CE and FCC certified unit)
Antenna Efficiency	>99%[5]
Power Supply	11-15 VDC
Data Rate	11 MB / hr[6]
Software	PoLRa Cloud© WebApp

Details

[1]Extremely low power consumption allows remote operation on constrained infrastructure or solar

[2]Symmetric antenna pattern measures the same footprint at both polarizations, which is not the case with other systems

[3]Includes time for measuring both polarizations and internal calibration loads

[4]Out-of-band rejection/immunity is critical for low-power passive sensing. TerraRad’s unique use of bandpass filters in front of the amplifier chain ensures that interference signals do not saturate the detector

[5]TerraRad’s patented antenna is highly efficient, meaning that detected microwave power originates from the remote scene and not from the antenna itself

[6]The relatively low data rate means quick transfer and low processing times

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