

## University of Sherbrooke L-band radiometer specifications

<b>Component</b>	<b>Specification</b>
Radiometer receiver architecture	High sideband downconversion
Center frequency, GHz	1.475 or selectable
Edge-to-edge IF bandpass, MHz	150 or 25 MHz, user selectable
Sensitivity, single observation 1 second delta T, Kelvins	0.04
Antenna HPBW, degrees	30
Sidelobes, -dB	-23
Type	Potter horn
Noise Figure, dB	5.5
Receiver noise temperature, Kelvins	750
Weight, kg	10 kg
Voltage, vdc	22 to 32
Power, watts maximum	90
Warm-up time, minutes, from room temperature	30
Dimensions: receiver Potter Horn	38x14x25 cm with 95x51 dia. cm
Environmental: temperature humidity	-50 to +50C 0 to 100% noncondensing
<b>Measurement specifications</b>	
Calibrated Brightness Temperature Accuracy	$0.2 + 0.002 *  T_{ref} - T_{sky} $ K
Long Term Stability	<1 K / 180 days
Resolution (depends on selected integration time)	0.1 to 1 K
Integration time (configurable)	10 – 2500 msec
Warm-up time (typical)	20 minutes

## Environment Canada L-band radiometer specifications

<b>Component</b>	<b>Specification</b>
Radiometer receiver architecture	High sideband down conversion
Frequency Range, GHz	1.40 to 1.55
Edge-to-edge IF bandpass, MHz	150 MHz (hyperspectral mode) or 25 MHz (broadband mode); user selectable
Hyperspectral mode	385 channels of 390.625 KHz width
Sensitivity, single observation	0.61
1 second delta T, Kelvins	
Antenna HPBW, degrees	30
Sidelobes, -dB	-20
Type	Conformal Muffin Tin Antenna
Noise Figure, dB	3.6
Receiver noise temperature, Kelvins	374
Weight, kg	15 kg
Voltage, vdc	18 to 32
Power, watts maximum	100
Dimensions: antenna housing	60x57x42 cm
Environmental: temperature	-50 to +50C
<b>Measurement specifications</b>	
Calibrated Brightness Temperature	~1.5K
Accuracy	
Integration time	4.71 sec +/- 0.75 sec
Warm-up time (typical)	20 minutes