



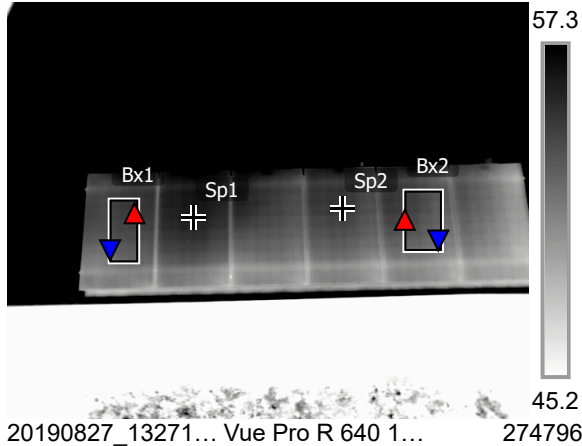
Skyview Thermography and Media Services

Solar Panels

SW Palm Bay, FL

August 29, 2019

9/6/2019 4:01:35 PM



Measurements

Bx1	Max	54.9 °C
	Min	51.6 °C
	Average	53.6 °C
Bx2	Max	54.6 °C
	Min	51.0 °C
	Average	53.0 °C
Sp1		55.9 °C
Sp2		54.7 °C

Parameters

Emissivity	0.87
Refl. temp.	-23 °C
Distance	50 m
Atmospheric temp.	32 °C
Ext. optics temp.	32 °C
Ext. optics trans.	1
Relative humidity	45 %

Note

PV Facing East

Text annotations

Outside Temp	32.0C
RH	55%
Thermographer	J Eftimiades
Irradiance	740w/m2
Time	12:30 PM
Roof Slope	20 degrees
Wind Speed	10 Kts from the SE

Purpose: To evaluate residential solar panels for anomalies.

Method: Utilizing a UAS and a thermographic camera (640 x 512) solar modules were recorded at a distance of 25 meters. Outside temperature, relative humidity, wind speed, and irradiance were recorded. Emissivity was obtained and recorded prior to flight.

Findings: A gray palette was chosen to better highlight individual cells. Rectangular samples were taken from two of the modules. Averages for Bx1, and Bx2 were 53.6 C and 53.0 C respectively. Spot recordings of Sp1 and Sp2 were 55.9 C and 54.7 C respectively. Average sample temperature was consistent and unremarkable. No individual cell anomaly detected. No evidence of structural irregularity or short circuit.

Impression: Normal Study. Re evaluate in 1 years time.



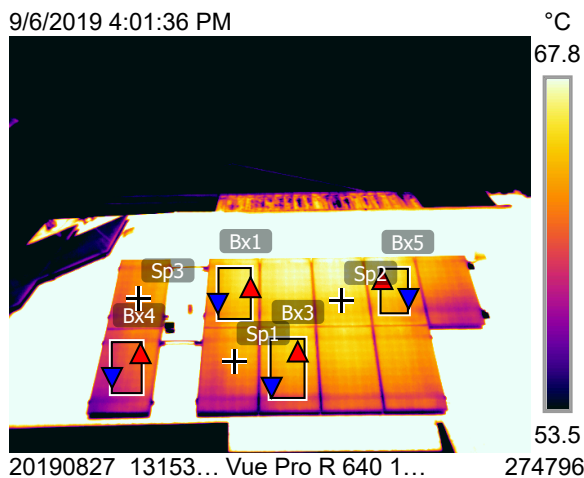
Skyview Thermography and Media Services

Solar Panels

SW Palm Bay, FL

August 29, 2019

9/6/2019 4:01:36 PM



Measurements

Bx1	Max	66.9 °C
	Min	61.9 °C
	Average	64.8 °C
Bx3	Max	65.7 °C
	Min	59.0 °C
	Average	63.4 °C
Bx4	Max	62.2 °C
	Min	58.2 °C
	Average	60.4 °C
Bx5	Max	67.2 °C
	Min	62.1 °C
	Average	64.9 °C
Sp1		63.0 °C
Sp2		65.3 °C
Sp3		62.8 °C

Parameters

Emissivity	0.87
Refl. temp.	13 °C
Distance	25 m
Atmospheric temp.	32 °C
Ext. optics temp.	32 °C
Ext. optics trans.	1
Relative humidity	45 %

Note

P V Modules Facing South

Text annotations

Outside temp	32.0 C
RH	55%
Thermographer	J Eftimiades
Irradiance	740w/m2
Time	12:30 PM
Roof slope	20 degrees
Wind Speed	10 kts from the SE

Purpose: To evaluate residential solar panels for anomalies.

Method: Utilizing a UAS and a thermographic camera (640 x 512) solar modules were recorded at a distance of 25 meters. Outside temperature, relative humidity, wind speed, and irradiance were recorded. Emissivity was obtained and recorded prior to flight.

Findings: Rectangular samples were taken. Averages for Bx1, Bx3, Bx4, and Bx5 were 64.8 C, 63.4 C, 60.4 C, and 64.9 C respectively. Superior portion of the panels demonstrate some reflection of the sun but otherwise no hotspots or patchwork dysfunction is evident.

Impression: Normal Study. Re evaluate in 1 years time.