

Testcenter Serial: 6001_Zora

Job ID: Scanoffice_001_23022021

Address: TUAS / Joukahaisenkatu 7

Country / City: FI 20520 Turku

Number of Modules: 3

Comments:

The study was performed by the TUAS MOBILE SOLAR Lab, calibrated on 28.2.2020 by MBJ Services GmbH. The references used for characterization was the TURU004 / 192M6H601312220 PERC Reference Module, calibrated at 1.4.2020 by Fraunhofer ISE – CalLab PV Modules, accredited by Deutsche Akkreditierungsstelle GmbH.

The expanded measurement uncertainty for the measured module types is 2.5% with a probability of 95%. The study included three (3) modules of the type Suntech STP375S-B60/Wnh, rated at 375 Wp.

With a nominal power of 375 Wp the 2.5% measurement uncertainty means a range from 366...384 Wp. The average power of the measured modules was 369.4 Wp, which is below the rated nominal power, but still within the uncertainty range.

In the electroluminescence images no mismatching between cells was visible.

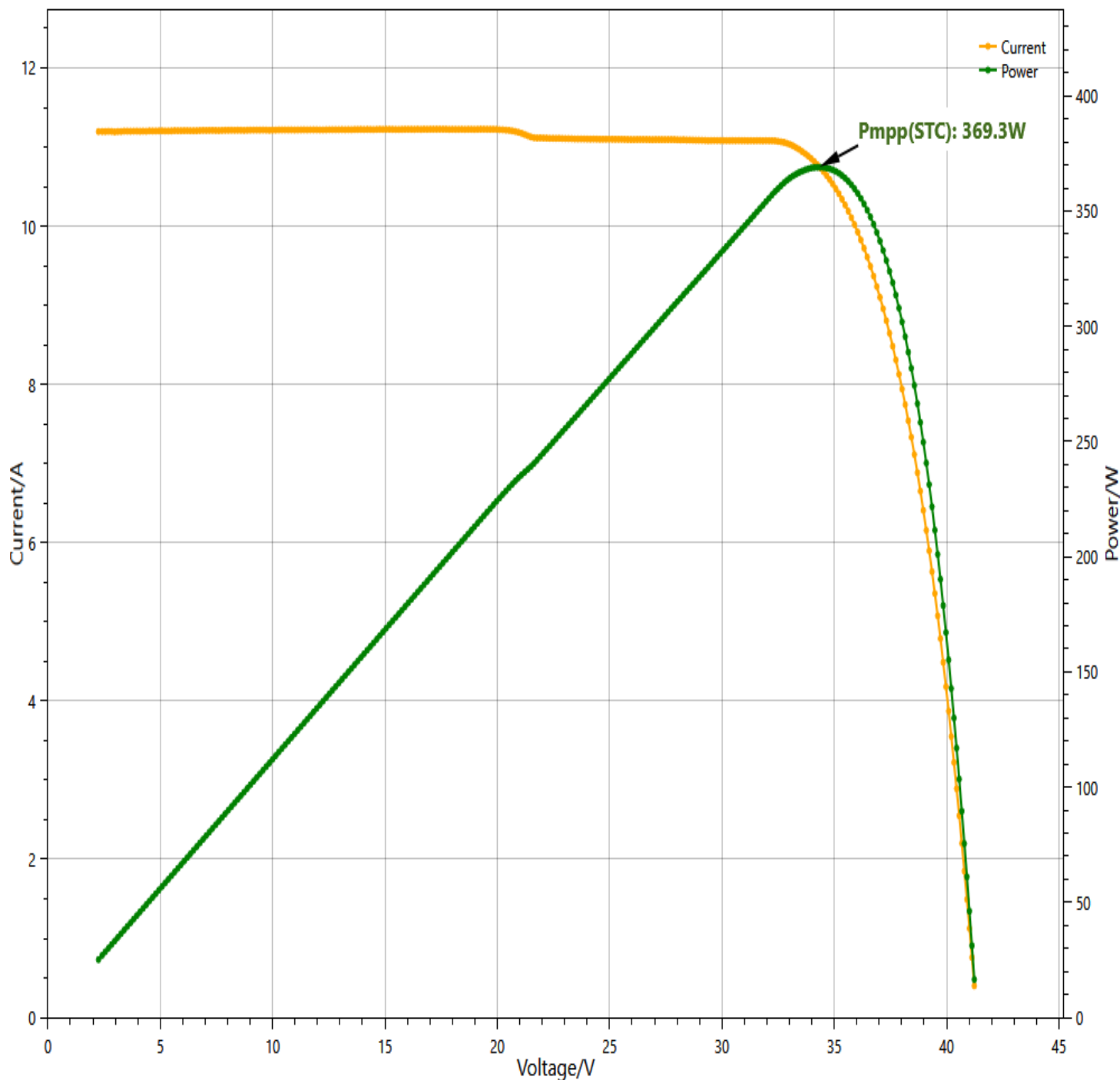
No cracks were visible on the modules.

MBJ Unique ID: 600120210224102007

Module ID: 0BK916979392924020

Type ID: Suntech / STP375S-B60/Wnh

I-V Curve



	Pmpp[W]	Impp[A]	Umpp[V]	Isc[A]	Uoc[V]	Irr[W/m2]	FF[%]
IEC60891 STC	369.3	10.75	34.35	11.19	41.36	1000.0	79.8
Measured	374.2	10.80	34.64	11.29	41.35	1005.2	80.1

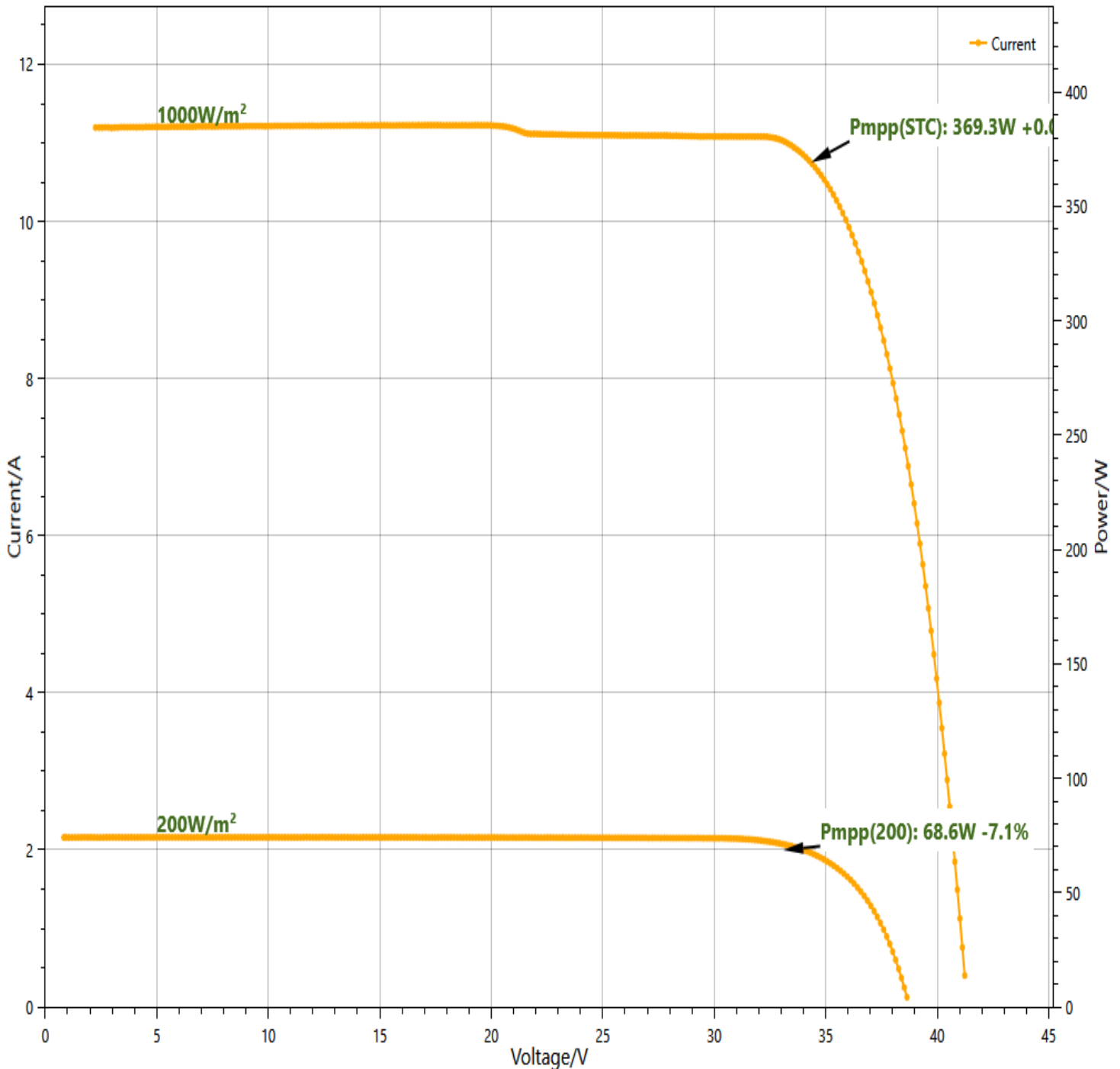
Tmod[°C]:25.1	Tref[°C]:24.7	Tfl[°C]:27.17	Tout[°C]:n/a	T[ms]:141.5
Type:Mono	alpha[%]:0.050	beta[%]:-0.304		
IEC aICF:0.060	IEC Rs[Ohm]:0.01	kappa[mOhm/K]:3.00		
Software:748p		Reference: ISE_Mono_Reference		
		TF: 1.000, FFCorr: -0.899%		

MBJ Unique ID: 600120210224102007

Module ID: 0BK916979392924020

Type ID: Suntech / STP375S-B60/Wnh

I-V Curve



IEC60891 Irr [W/m2]	200	1000
IEC60891 Pmpp [W]	68.6	369.3
Module Eff [%]	18.8	20.2
Eff Delta [%]	-7.1	0.0

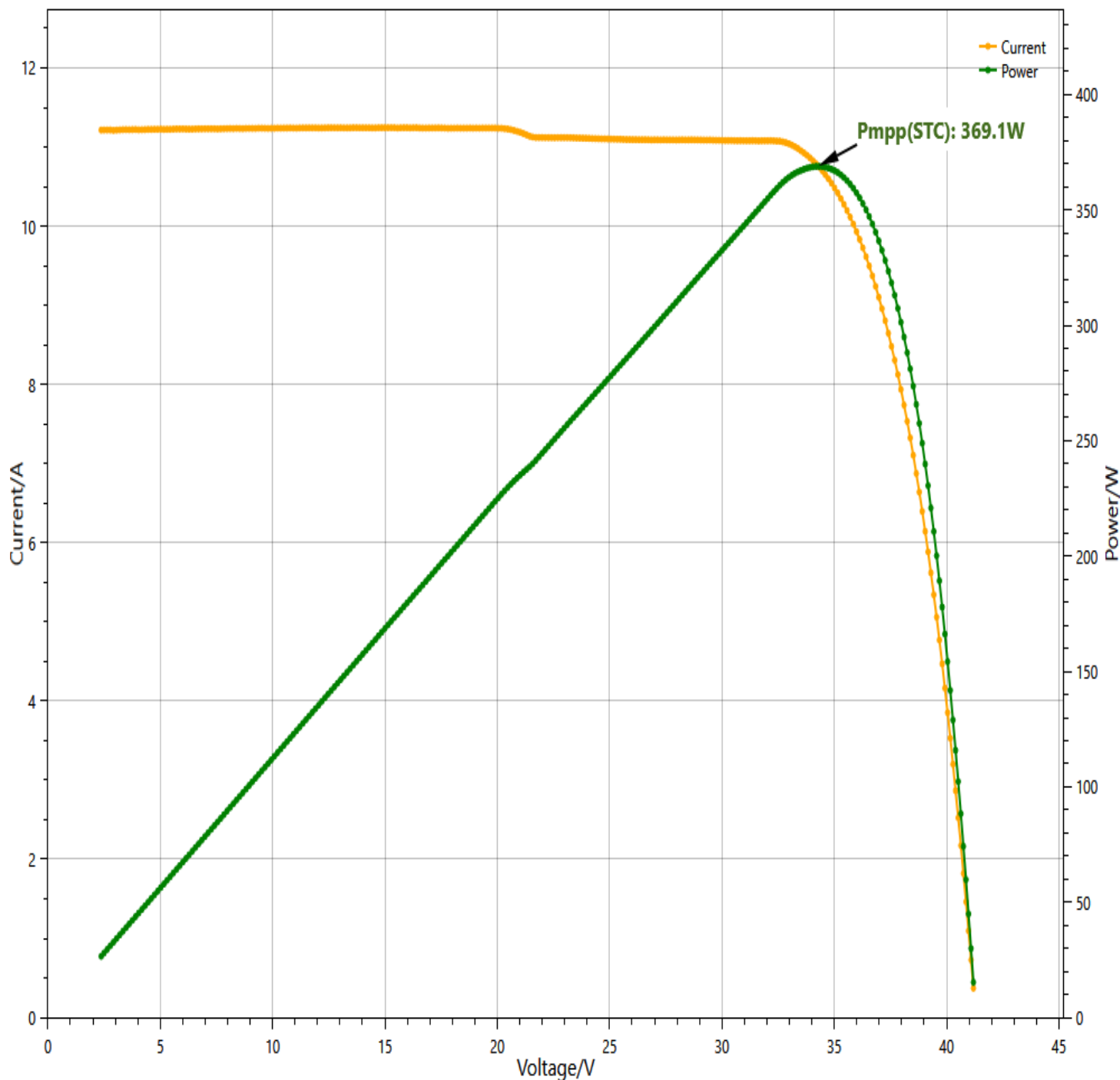
Measured [W/m2] 204.4 1005.2
Module Width/Height (Portrait) [mm]:1039*1756

MBJ Unique ID: 600120210224103217

Module ID: 0BK916979392074020

Type ID: Suntech / STP375S-B60/Wnh

I-V Curve



	Pmpp[W]	Impp[A]	Umpp[V]	Isc[A]	Uoc[V]	Irr[W/m2]	FF[%]
IEC60891 STC	369.1	10.76	34.30	11.21	41.31	1000.0	79.7
Measured	374.0	10.80	34.63	11.30	41.34	1004.5	80.1

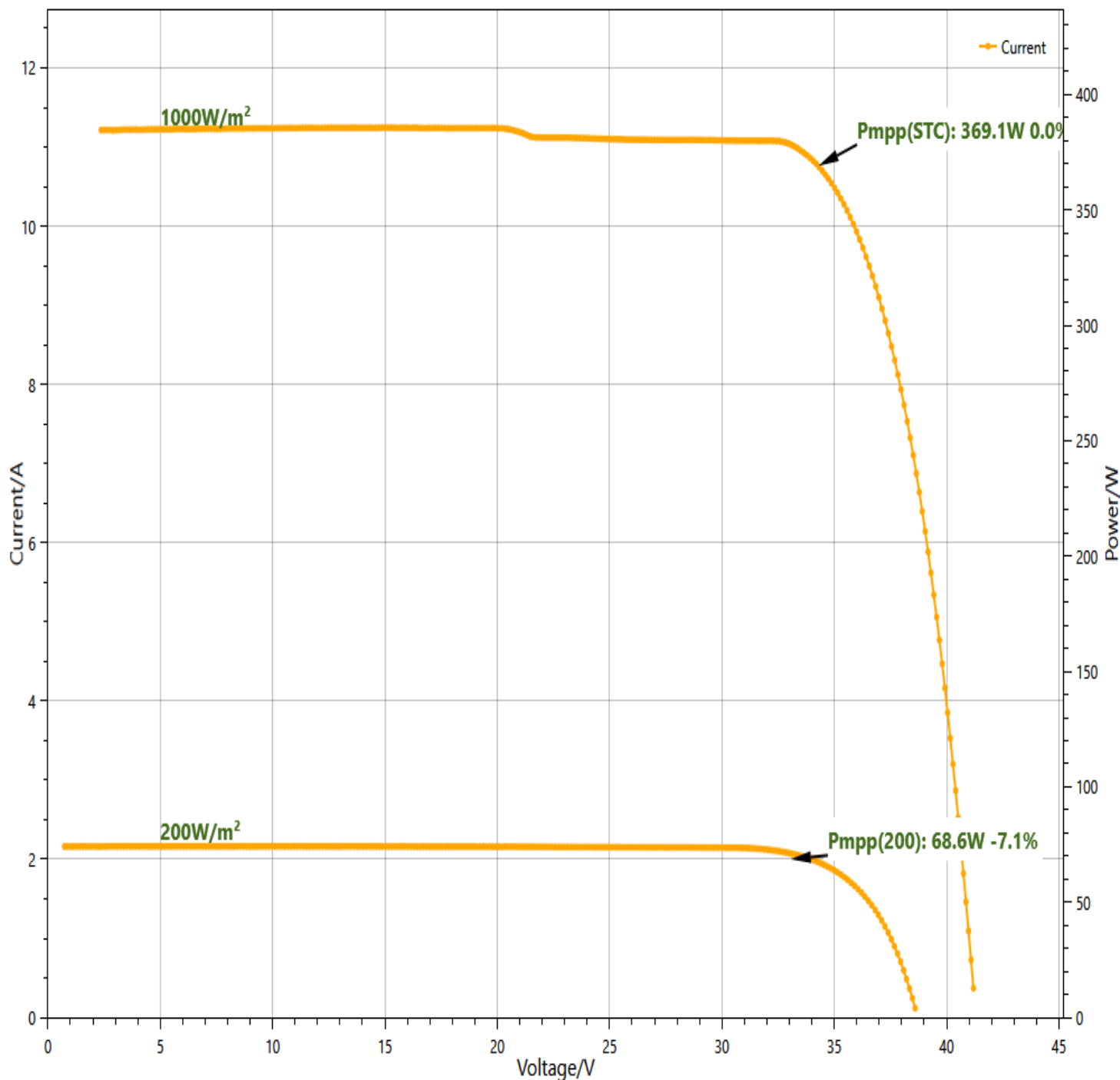
Tmod[°C]:24.8	Tref[°C]:25.2	Tfl[°C]:26.71	Tout[°C]:n/a	T[ms]:141.0
Type:Mono	alpha[%]:0.050	beta[%]:-0.304		
IEC aICF:0.060	IEC Rs[Ohm]:0.01	kappa[mOhm/K]:3.00		
Software:748p		Reference: ISE_Mono_Reference		
		TF: 1.000, FFCorr: -0.899%		

MBJ Unique ID: 600120210224103217

Module ID: 0BK916979392074020

Type ID: Suntech / STP375S-B60/Wnh

I-V Curve



IEC60891 Irr [W/m2]	200	1000
IEC60891 Pmpp [W]	68.6	369.1
Module Eff [%]	18.8	20.2
Eff Delta [%]	-7.1	0.0

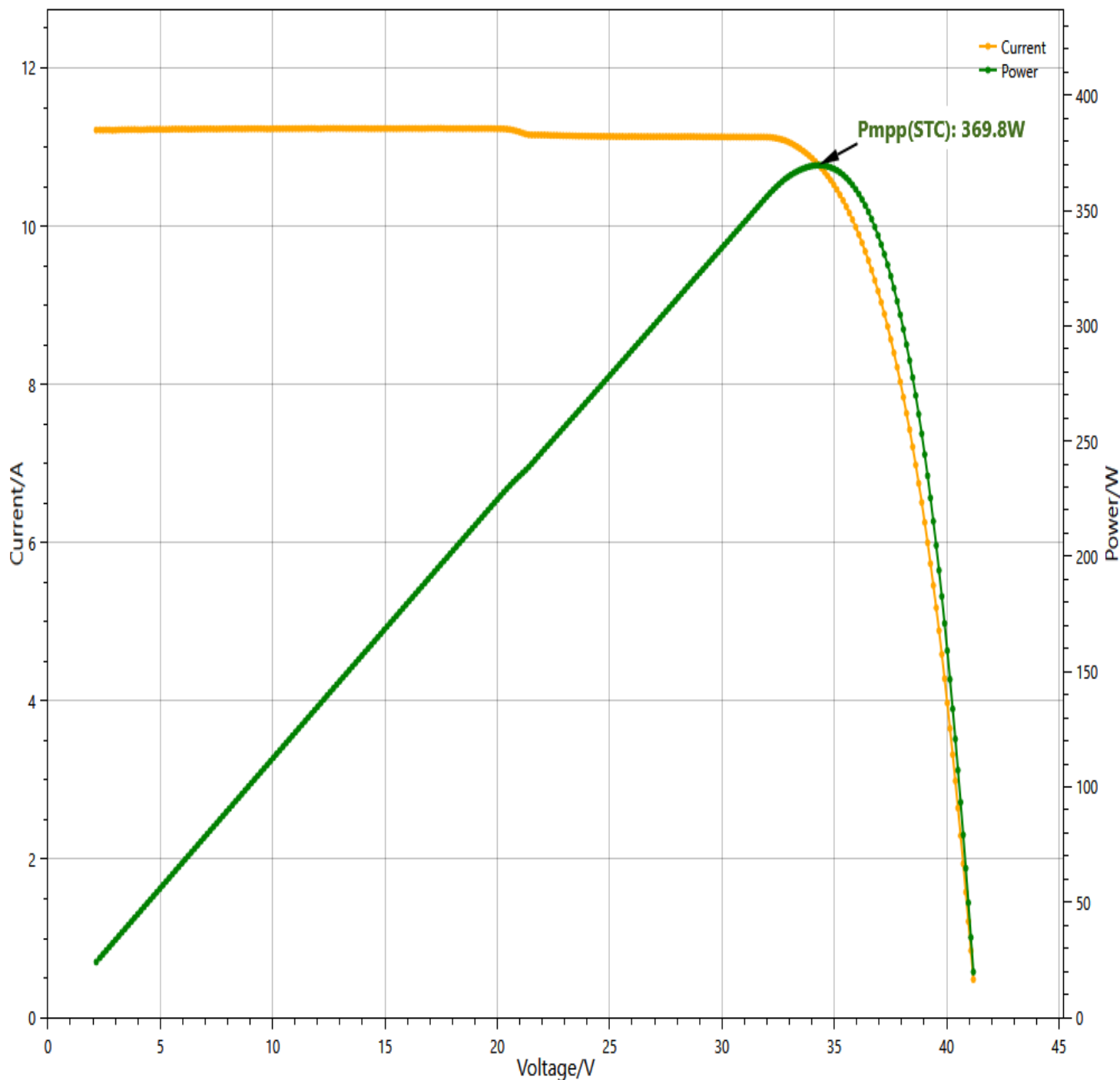
Measured [W/m2] 204.4 1004.5
Module Width/Height (Portrait) [mm]:1039*1756

MBJ Unique ID: 600120210224105107

Module ID: 0BK916979392884020

Type ID: Suntech / STP375S-B60/Wnh

I-V Curve



	Pmpp[W]	Impp[A]	Umpp[V]	Isc[A]	Uoc[V]	Irr[W/m2]	FF[%]
IEC60891 STC	369.8	10.78	34.32	11.21	41.34	1000.0	79.8
Measured	374.7	10.81	34.66	11.30	41.38	1004.1	80.2

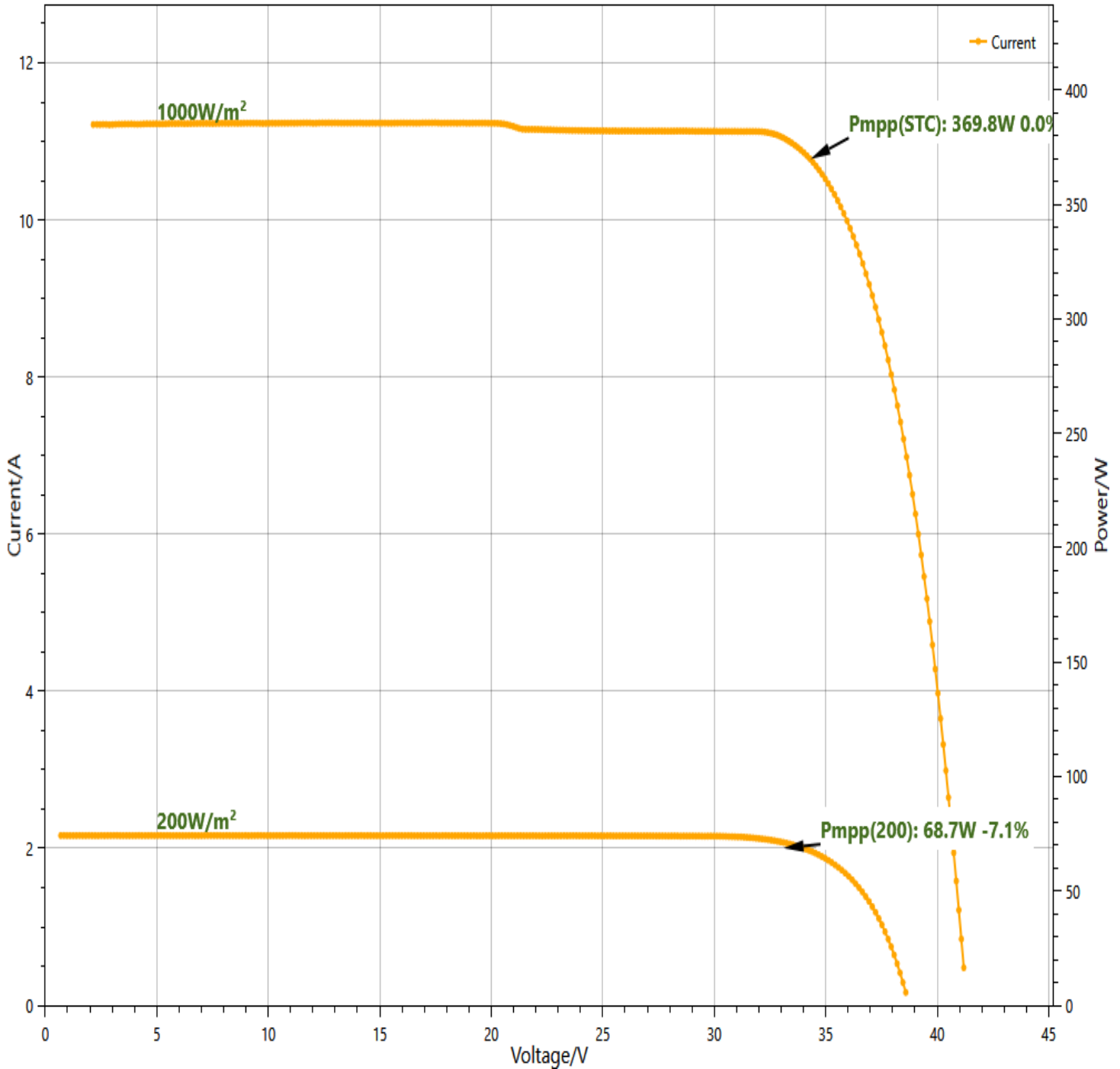
Tmod[°C]:24.7	Tref[°C]:25.4	Tfl[°C]:27.03	Tout[°C]:n/a	T[ms]:141.5
Type:Mono	alpha[%]:0.050	beta[%]:-0.304		
IEC aICF:0.060	IEC Rs[Ohm]:0.01	kappa[mOhm/K]:3.00		
Software:748p		Reference: ISE_Mono_Reference		
		TF: 1.000, FFCorr: -0.899%		

MBJ Unique ID: 600120210224105107

Module ID: 0BK916979392884020

Type ID: Suntech / STP375S-B60/Wnh

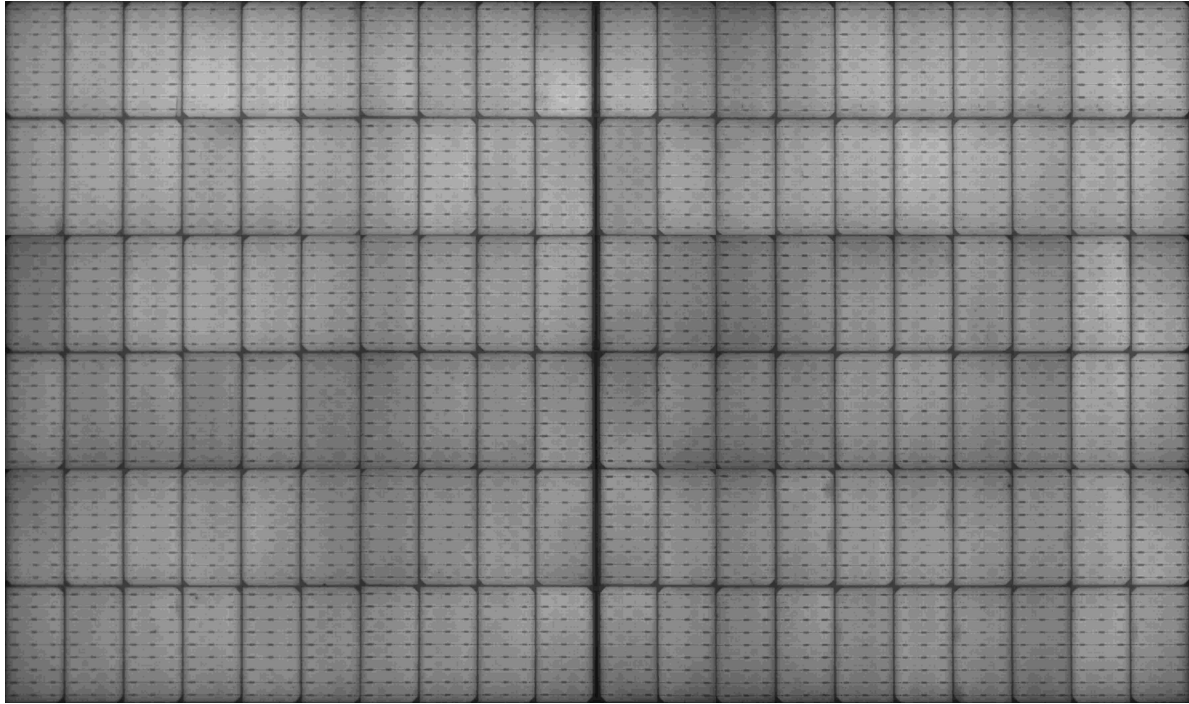
I-V Curve



IEC60891 Irr [W/m2]	200	1000
IEC60891 Pmpp [W]	68.7	369.8
Module Eff [%]	18.8	20.3
Eff Delta [%]	-7.1	0.0

Measured [W/m2] 204.3 1004.1
Module Width/Height (Portrait) [mm]:1039*1756

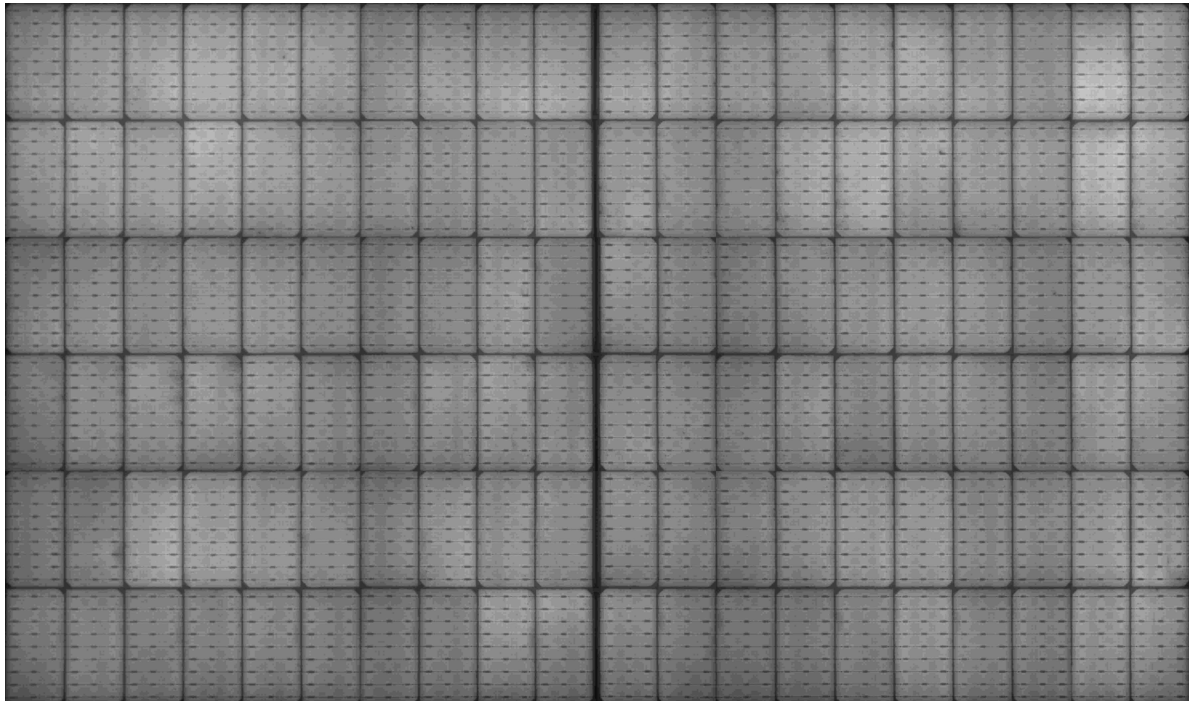
Electroluminescence for 600120210224102007



Current[A]: 12.010
Exposure Time [ms]: 350

Voltage[V]: 45.360

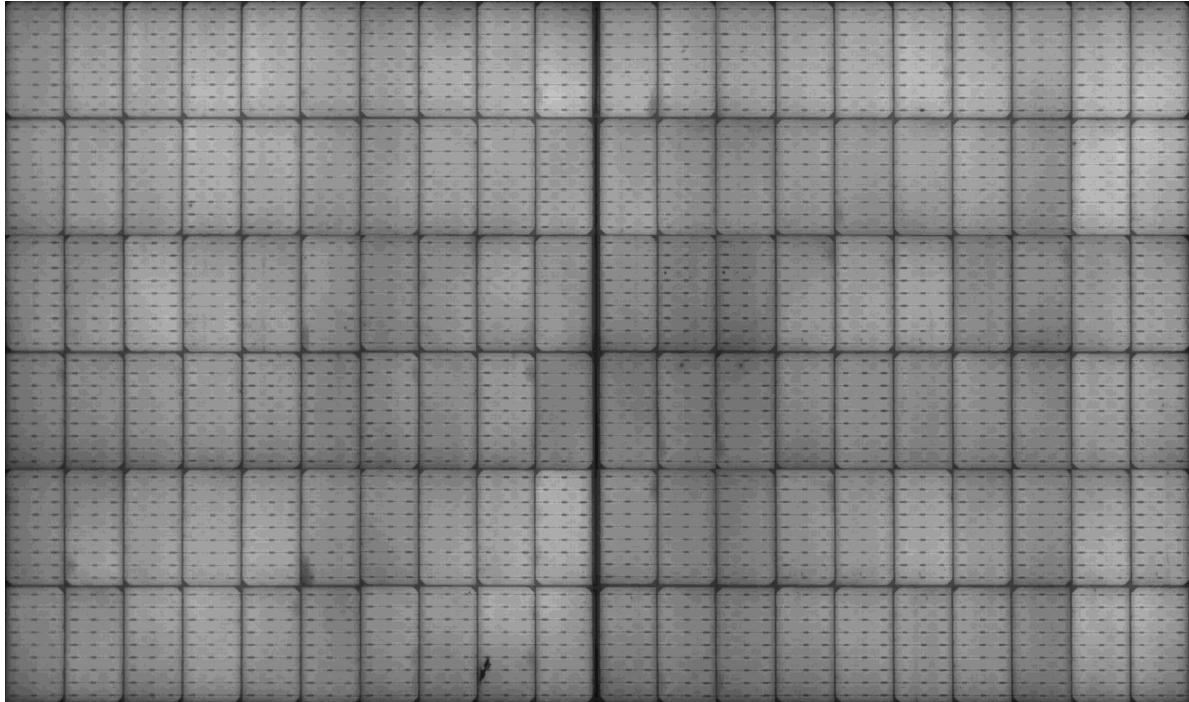
Electroluminescence for 600120210224103217



Current[A]: 12.010
Exposure Time [ms]: 350

Voltage[V]: 45.680

Electroluminescence for 600120210224105107



Current[A]: 12.010
Exposure Time [ms]: 350

Voltage[V]: 45.680

MBJ Unique ID	Module ID	Module Type/Description	Judgment
600120210224102007	0BK916979392924020	Suntech STP375S-B60/Wnh	ClassC
600120210224103217	0BK916979392074020	Suntech STP375S-B60/Wnh	ClassC
600120210224105107	0BK916979392884020	Suntech STP375S-B60/Wnh	ClassC

MBJ Unique ID	Connection Check	Diode Test	HiPot Test	GND Bond Tests		
				Port 1	Port 2	Port 3
600120210224102007	Successfull	Successfull	n/a	n/a	n/a	n/a
600120210224103217	Successfull	Successfull	n/a	n/a	n/a	n/a
600120210224105107	Successfull	Successfull	n/a	n/a	n/a	n/a

MBJ Unique ID	Pmpp[W]	Impp[A]	Umpp[V]	Isc[A]	Uoc[V]	Irr[W/m2]	FF[%]
600120210224102007	369.3	10.75	34.35	11.19	41.36	1000.0	79.8
600120210224103217	369.1	10.76	34.30	11.21	41.31	1000.0	79.7
600120210224105107	369.8	10.78	34.32	11.21	41.34	1000.0	79.8

MBJ Unique ID	Red	Yellow	Green	Blue	White
600120210224102007	0	0	0	0	120
600120210224103217	0	0	0	0	120
600120210224105107	0	0	0	0	120