

Testcenter Serial: 6001_Zora

Job ID: Scan5_01092020

Address: TUAS / Joukahaisenkatu 7

Country / City: FI 20520 Turku

Number of Modules: 3

Module Type/Description: SaloSolar 5BB_SS275P

PMPP NOM[W]: 275W

Comments:

The study was performed by TUAS MOBILE SOLAR Lab, calibrated 28.2.2020 by MBJ Services GmbH. The reference used for the characterization was TURU002 / 1K00008597 Mono Reference Module, calibrated at 27.3.2020 by Fraunhofer ISE – CalLab PV Modules, accredited by Deutsche Akkreditierungsstelle GmbH.

The expanded measurement uncertainty for the measured module type is 2.5% with a probability of 95%. By the modules nominal Power of 275 Wp this means a range from 268...282 Wp.

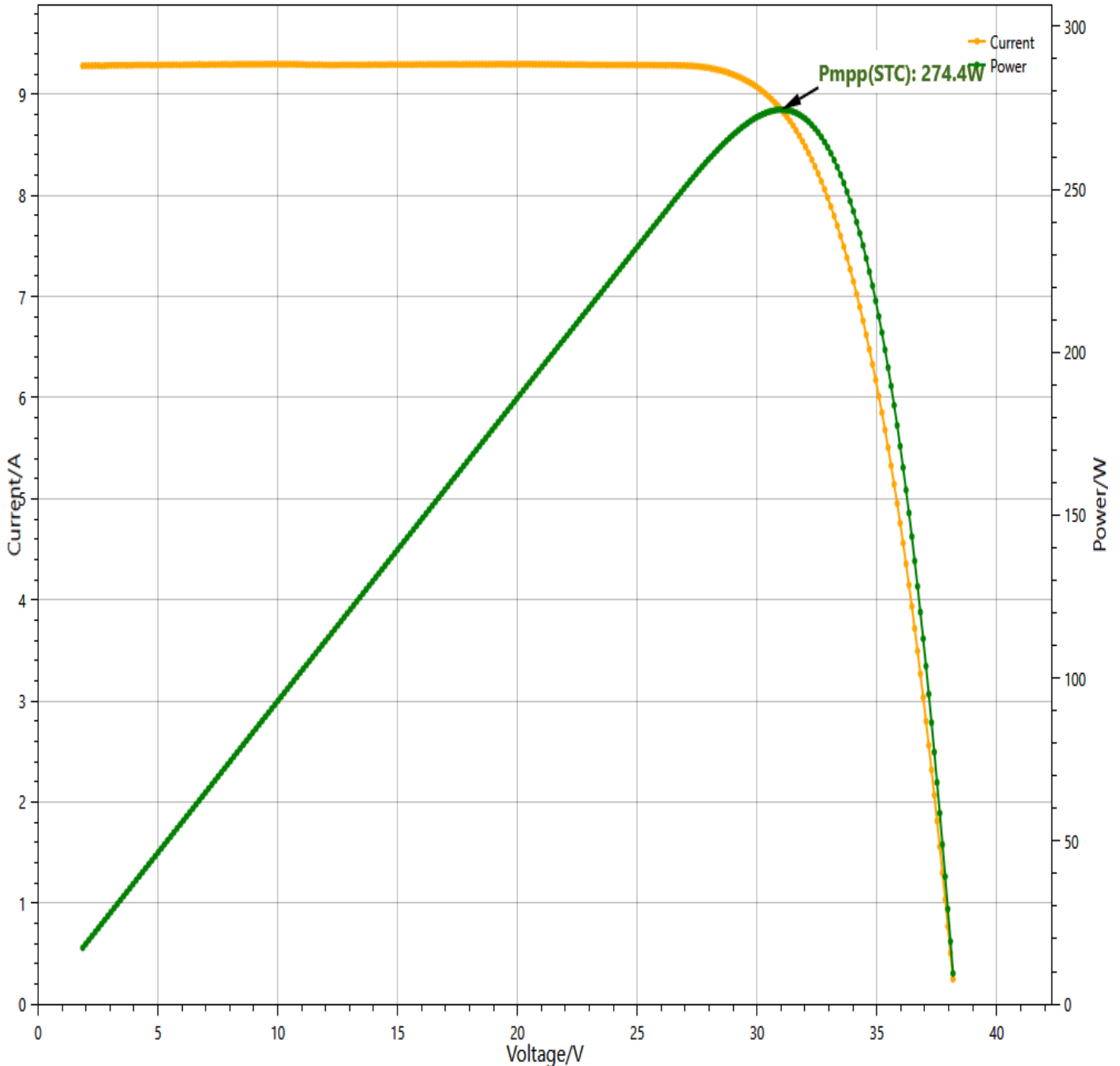
The average power of the measured modules was 273.93 Wp, with a maximum of 274,4 Wp and a minimum of 273.2 Wp. In the EL images of the modules some slight mismatch was found on one of the modules.

MBJ Unique ID: 600120200901102747

Module ID: 20190403008

Type ID: SaloSolar / 5BB_SS275P

I-V Curve



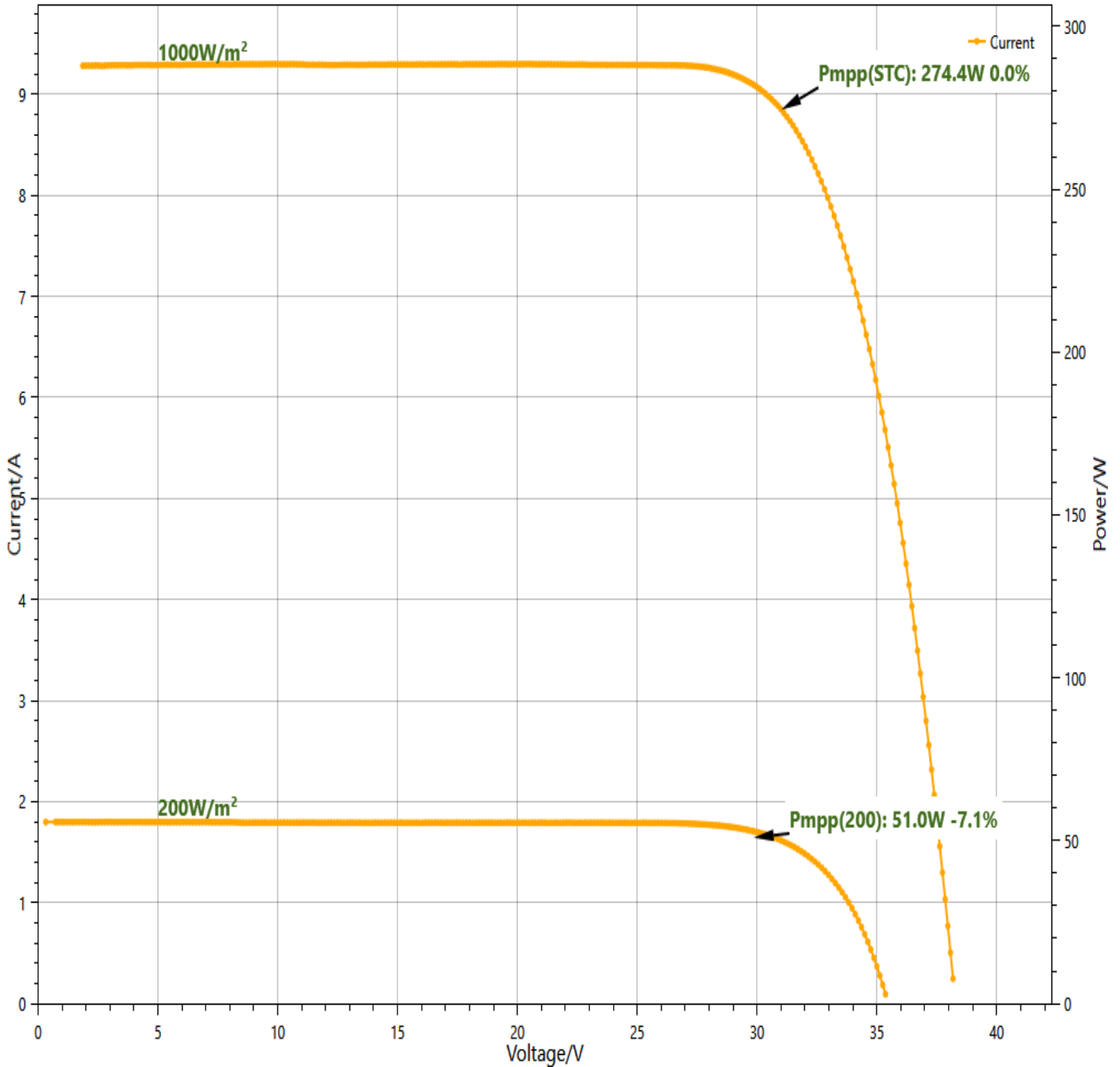
	Pmpp[W]	Impp[A]	Umpp[V]	Isc[A]	Uoc[V]	Irr[W/m2]	FF[%]
IEC60891 STC	274.4	8.85	31.01	9.28	38.28	1000.0	77.2
Measured	277.8	8.88	31.30	9.35	38.27	1004.2	77.6
Tmod[°C]:25.1	Tref[°C]:25.6	Tfl[°C]:25.62	Tout[°C]:n/a	T[ms]:140.5			
Type:Poly	alpha[%]:0.055	beta[%]:-0.320					
IEC aICF:0.060	IEC Rs[Ohm]:0.01	kappa[mOhm/K]:3.00					
Software:748p		Reference: ISE_Poly_Reference					
		FFCorr: -0.947%					

MBJ Unique ID: 600120200901102747

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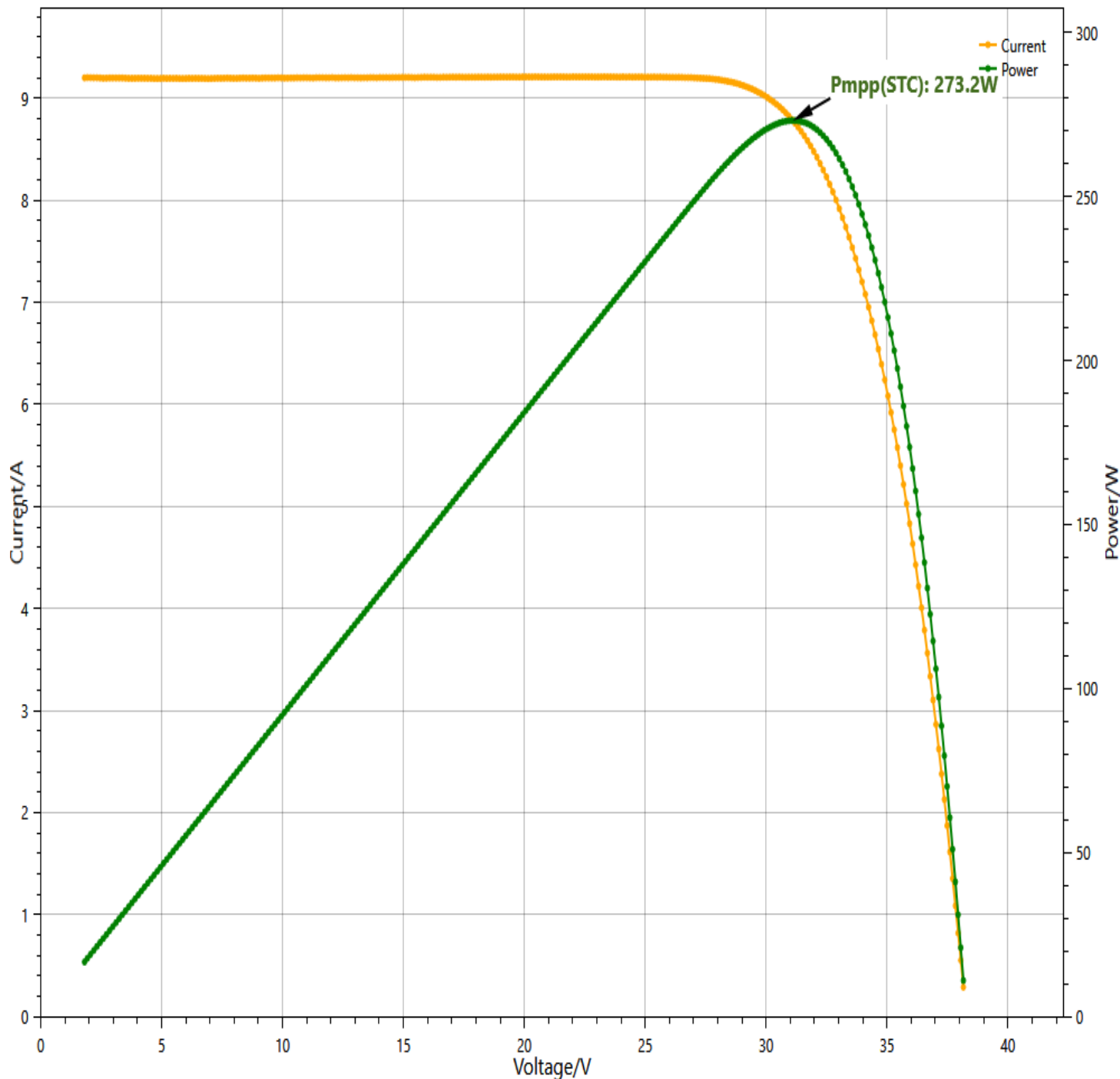
IEC60891 Irr [W/m2]	200	1000
IEC60891 Pmpp [W]	51.0	274.4
Module Eff [%]	15.7	16.9
Eff Delta [%]	-7.1	0.0
Measured [W/m2]	204.1	1004.2
Module Width/Height (Portrait) [mm]:	992*1636	

MBJ Unique ID: 600120200901103740

Module ID: 20190403027

Type ID: SaloSolar / 5BB_SS275P

I-V Curve



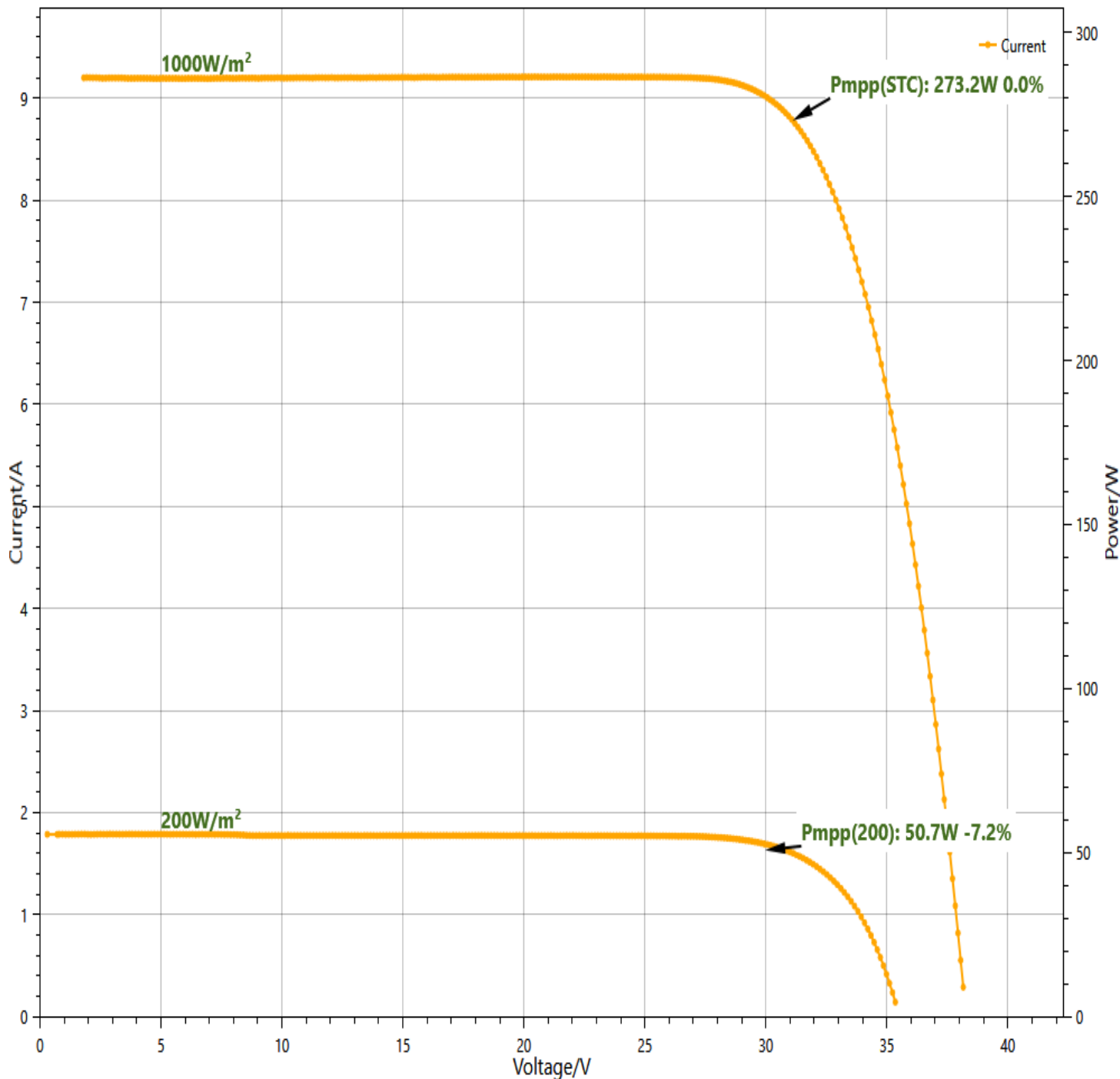
	Pmpp[W]	Imp[A]	Umpp[V]	Isc[A]	Uoc[V]	Irr[W/m2]	FF[%]
IEC60891 STC	273.2	8.78	31.10	9.21	38.28	1000.0	77.5
Measured	276.7	8.81	31.41	9.28	38.29	1004.1	77.9
Tmod[°C]:24.9	Tref[°C]:25.7	Tfl[°C]:25.57	Tout[°C]:n/a	T[ms]:140.5			
Type:Poly	alpha[%]:0.055	beta[%]:-0.320					
IEC aICF:0.060	IEC Rs[Ohm]:0.01	kappa[mOhm/K]:3.00					
Software:748p		Reference: ISE_Poly_Reference					
		FFCorr: -0.947%					

MBJ Unique ID: 600120200901103740

Module ID: 20190403027

Type ID: SaloSolar / 5BB_SS275P

I-V Curve



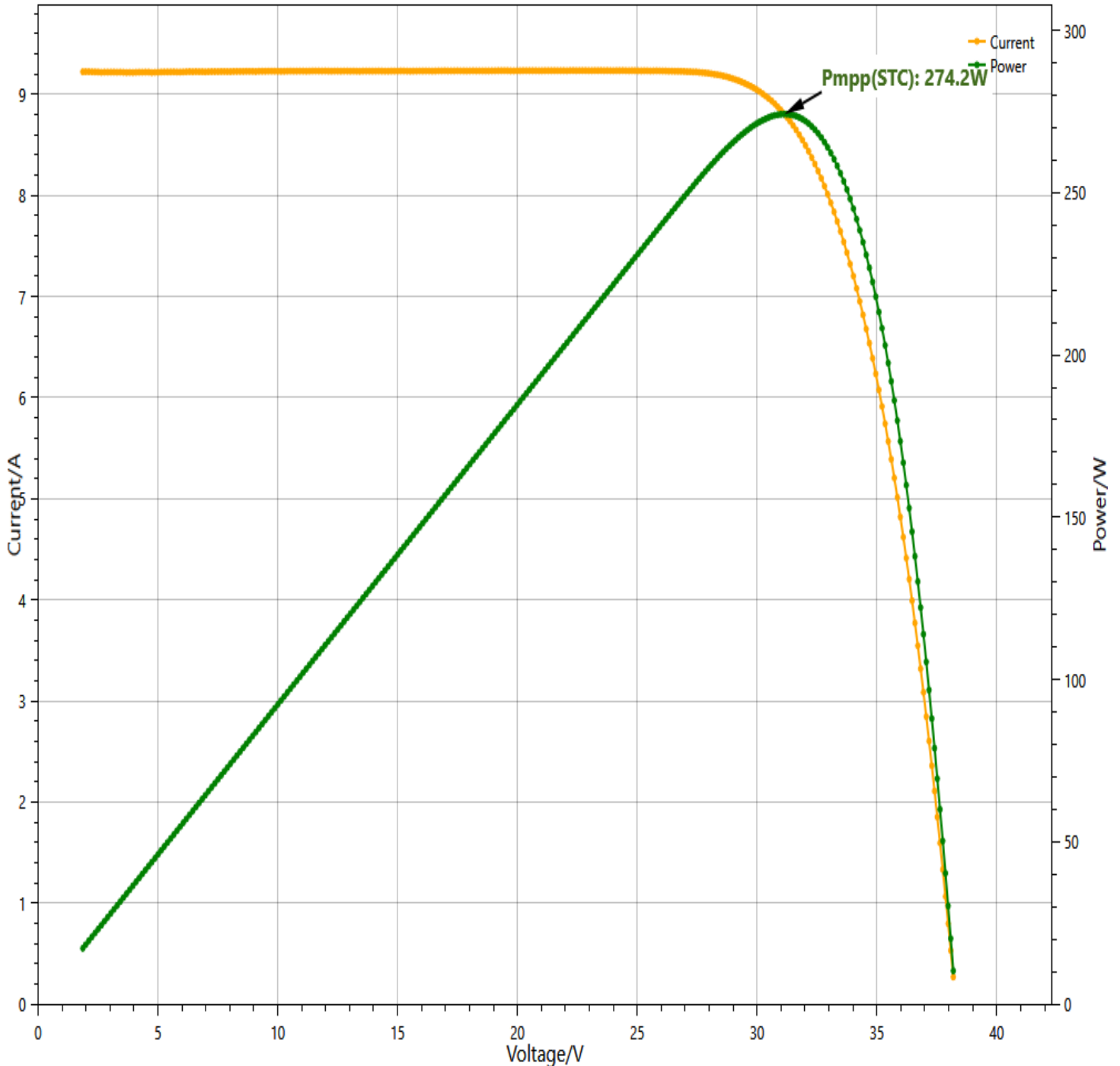
IEC60891 Irr [W/m2]	200	1000
IEC60891 Pmpp [W]	50.7	273.2
Module Eff [%]	15.6	16.8
Eff Delta [%]	-7.2	0.0
Measured [W/m2]	204.1	1004.1
Module Width/Height (Portrait) [mm]:	992*1636	

MBJ Unique ID: 600120200901101125

Module ID: 20190403028

Type ID: SaloSolar / 5BB_SS275P

I-V Curve



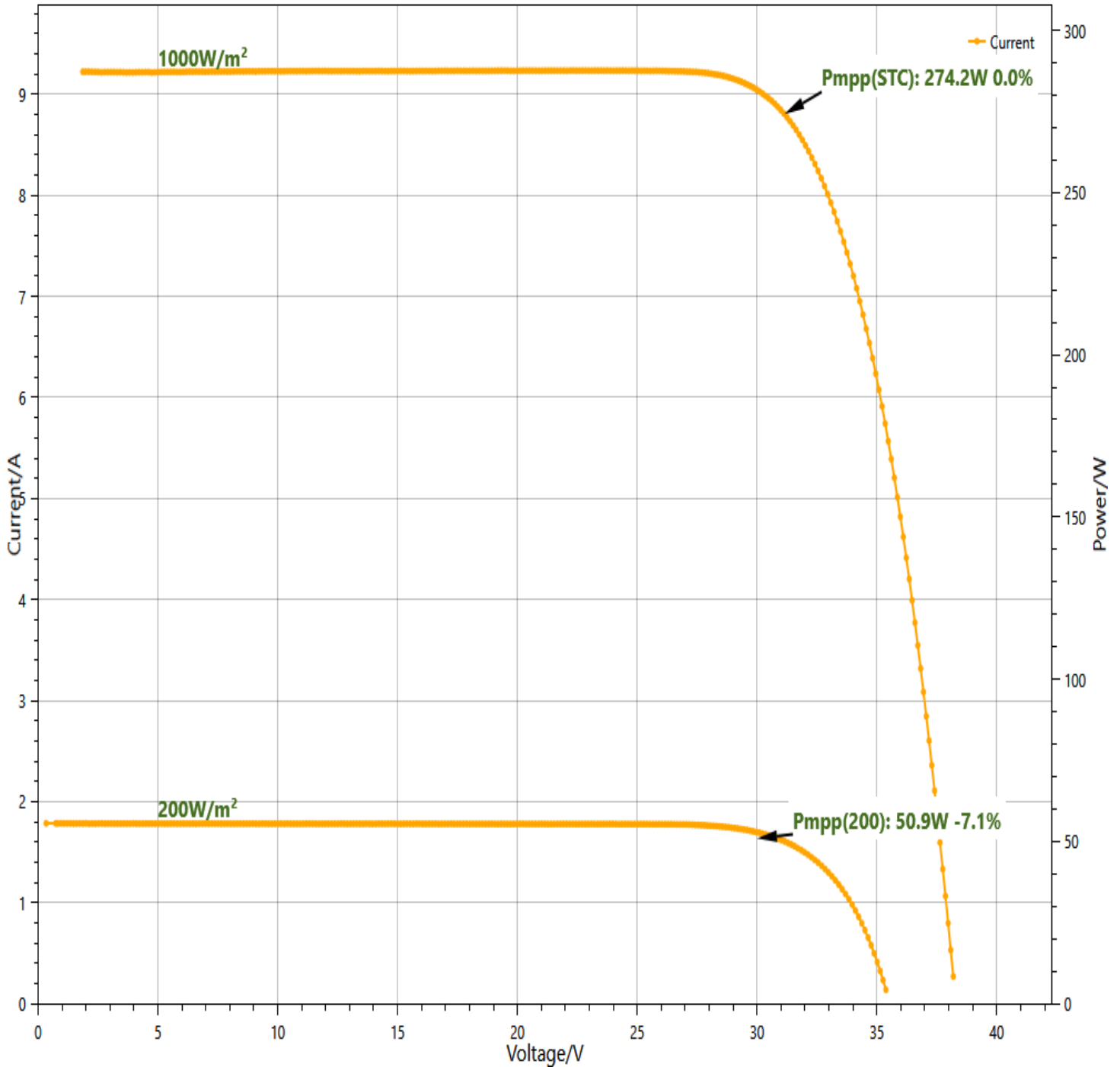
	Pmpp[W]	Impp[A]	Umpp[V]	Isc[A]	Uoc[V]	Irr[W/m2]	FF[%]
IEC60891 STC	274.2	8.81	31.14	9.22	38.30	1000.0	77.6
Measured	277.5	8.83	31.41	9.30	38.28	1004.2	78.0
Tmod[°C]:25.1	Tref[°C]:25.6	Tfl[°C]:25.75	Tout[°C]:n/a	T[ms]:140.5			
Type:Poly	alpha[%]:0.055	beta[%]:-0.320					
IEC aICF:0.060	IEC Rs[Ohm]:0.01	kappa[mOhm/K]:3.00					
Software:748p		Reference: ISE_Poly_Reference					
		FFCorr: -0.947%					

MBJ Unique ID: 600120200901101125

Module ID: 20190403028

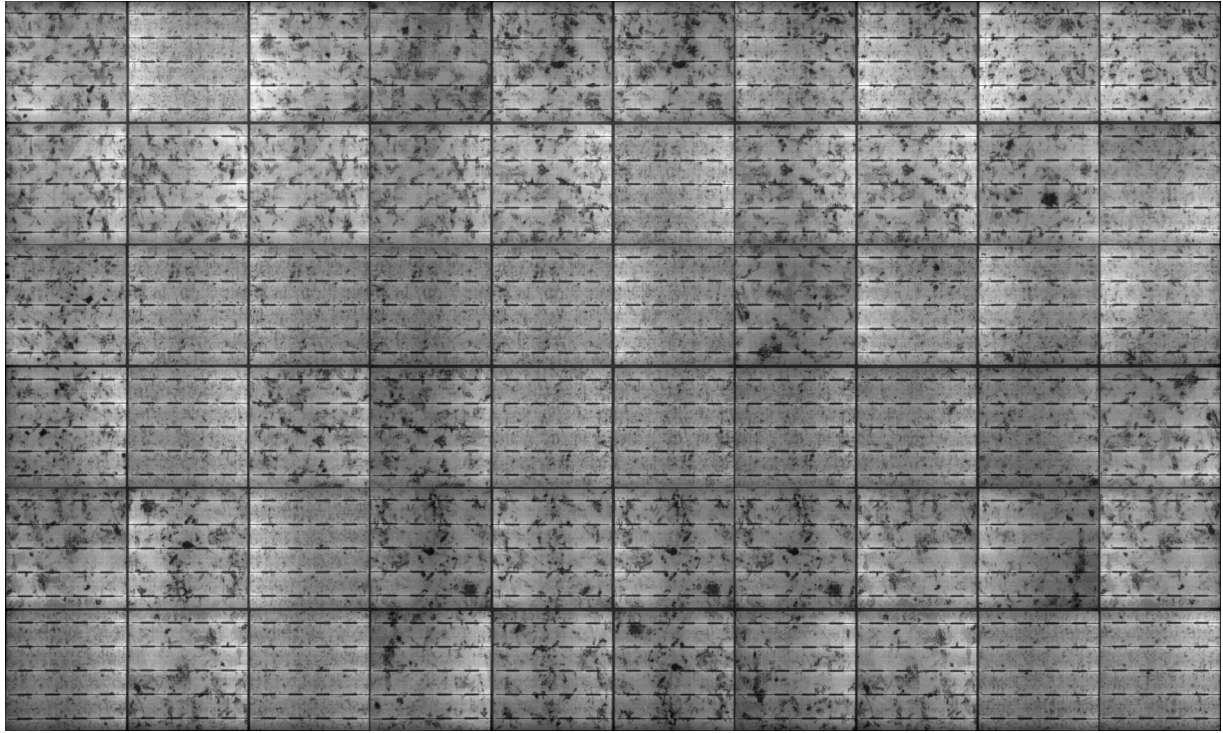
Type ID: SaloSolar / 5BB_SS275P

I-V Curve



IEC60891 Irr [W/m ²]	200	1000
IEC60891 Pmpp [W]	50.9	274.2
Module Eff [%]	15.7	16.9
Eff Delta [%]	-7.1	0.0
Measured [W/m ²]	204.1	1004.2
Module Width/Height (Portrait) [mm]:	992*1636	

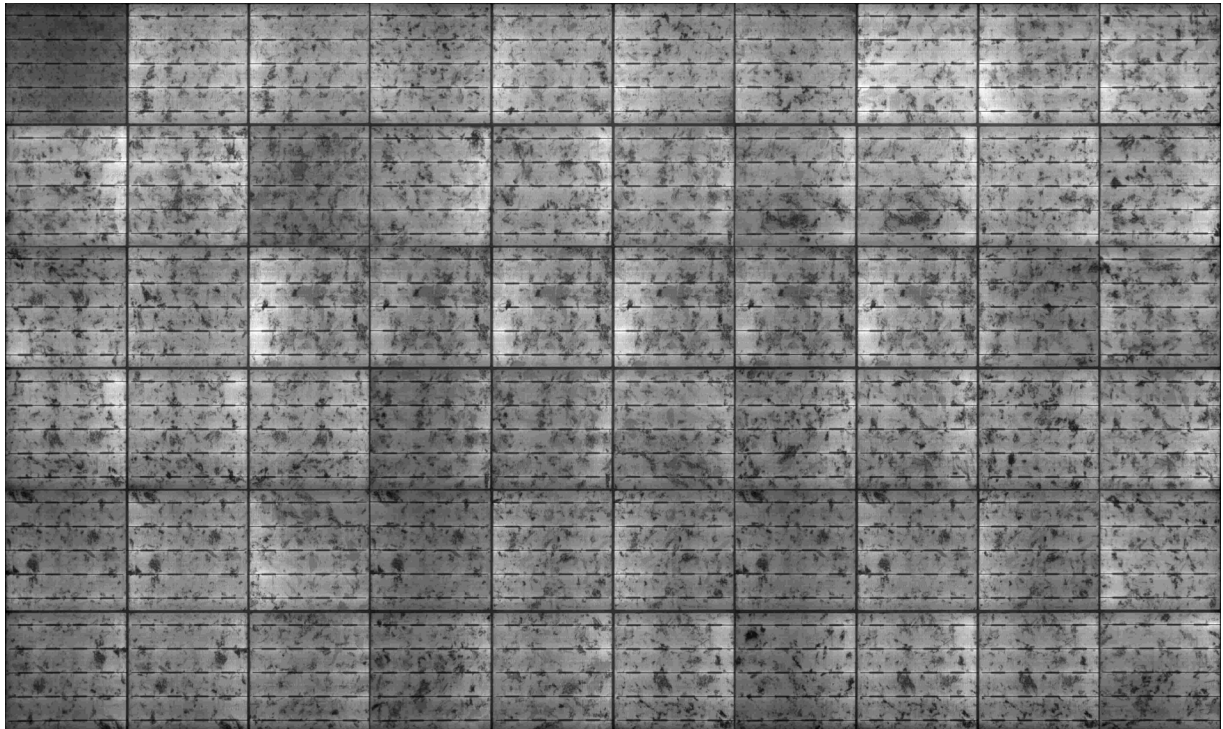
Electroluminescence for 600120200901102747



Current[A]: 12.020
Exposure Time [ms]: 3000

Voltage[V]: 43.420

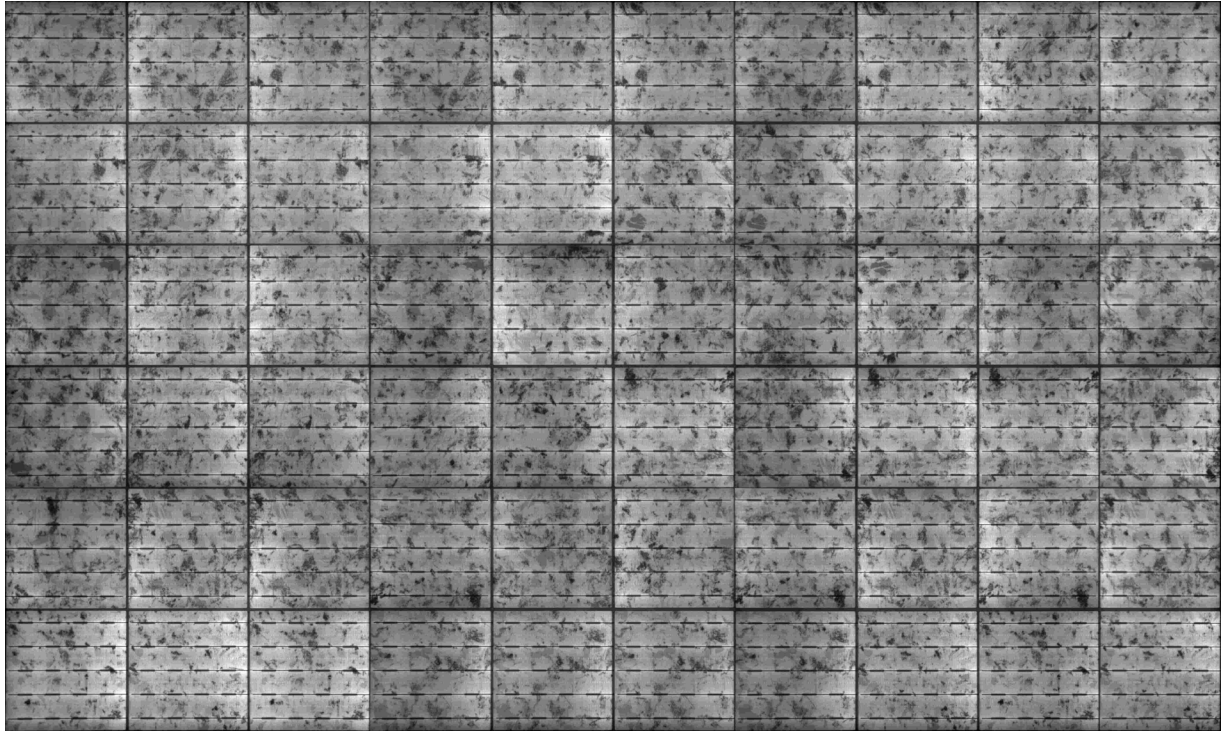
Electroluminescence for 600120200901103740



Current[A]: 12.020
Exposure Time [ms]: 3000

Voltage[V]: 43.420

Electroluminescence for 600120200901101125



Current[A]: 12.020
Exposure Time [ms]: 3000

Voltage[V]: 43.420

MBJ Unique ID	Module ID	Module Type/Description	Judgment
600120200901102747	20190403008	SaloSolar 5BB_SS275P	ClassB
600120200901103740	20190403027	SaloSolar 5BB_SS275P	ClassB
600120200901101125	20190403028	SaloSolar 5BB_SS275P	ClassB

MBJ Unique ID	Connection Check	Diode Test	HiPot Test	GND Bond Tests		
				Port 1	Port 2	Port 3
600120200901102747	Successfull	Successfull	n/a	n/a	n/a	n/a
600120200901103740	Successfull	Successfull	n/a	n/a	n/a	n/a
600120200901101125	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[%]
600120200901102747	274.4	8.85	31.01	9.28	38.28	1000.0	77.2
600120200901103740	273.2	8.78	31.10	9.21	38.28	1000.0	77.5
600120200901101125	274.2	8.81	31.14	9.22	38.30	1000.0	77.6

MBJ Unique ID	Red	Yellow	Green	Blue	White
600120200901102747	0	0	0	0	60
600120200901103740	0	0	0	0	60
600120200901101125	0	0	0	0	60