Certificate of compliance

Applicant: **SMA Solar Technology AG**
Sonnenallee 1
34266 Niestetal
Germany

Product: **Grid-tied photovoltaic (PV) inverter**

Model: SHP 150-20
SHP 100-20

Use in accordance with regulations:

The inverters are tested according the IEC 61683:1999, EN 61683:2000, DIN EN 61683:2000 procedure for measuring efficiency.

Applied rules and standards:

IEC 61683:1999, EN 61683:2000, DIN EN 61683:2000
Photovoltaic systems – Power conditioners – Procedure for measuring efficiency

At the time of issue of this certificate the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

Report number:	**18TH0282-IEC61683_0**	**Certification program:**	**NSOP-0032-DEU-ZE-V01**
Certificate number:	**U20-0068**	**Date of issue:**	**2020-02-18**

Certification body

Holger Schaffer

Certification body of Bureau Veritas Consumer Products Services Germany GmbH accredited according to DIN EN ISO/IEC 17065

A partial representation of the certificate requires the written approval of Bureau Veritas Consumer Products Services Germany GmbH

DAkkS Deutsche Akkreditierungsstelle D-ZE-12024-01-00

Measuring of efficiency

Extract from test report according the IEC 61683 **Nr. 18TH0282-IEC61683_0**

Efficiency measurement conditions test results

SHP 150-20

Input voltage [Vdc]		Power in [kW] (nom. 150kW)				
		10%	**25%**	**50%**	**75%**	**100%**
		15,0	37,8	75,0	112,5	149,4
		η in [%]				
V_{min}	880	98,89	99,16	99,08	98,90	98,65
$V_{nominal}$	960	98,88	99,10	99,02	98,83	98,57
$V_{max\ (90\%\ MPPT)}$	1305	98,29	98,78	98,78	98,62	98,33
$V_{max\ (MPPT)}$	1450	98,02	98,61	98,64	98,49	98,24

Note:

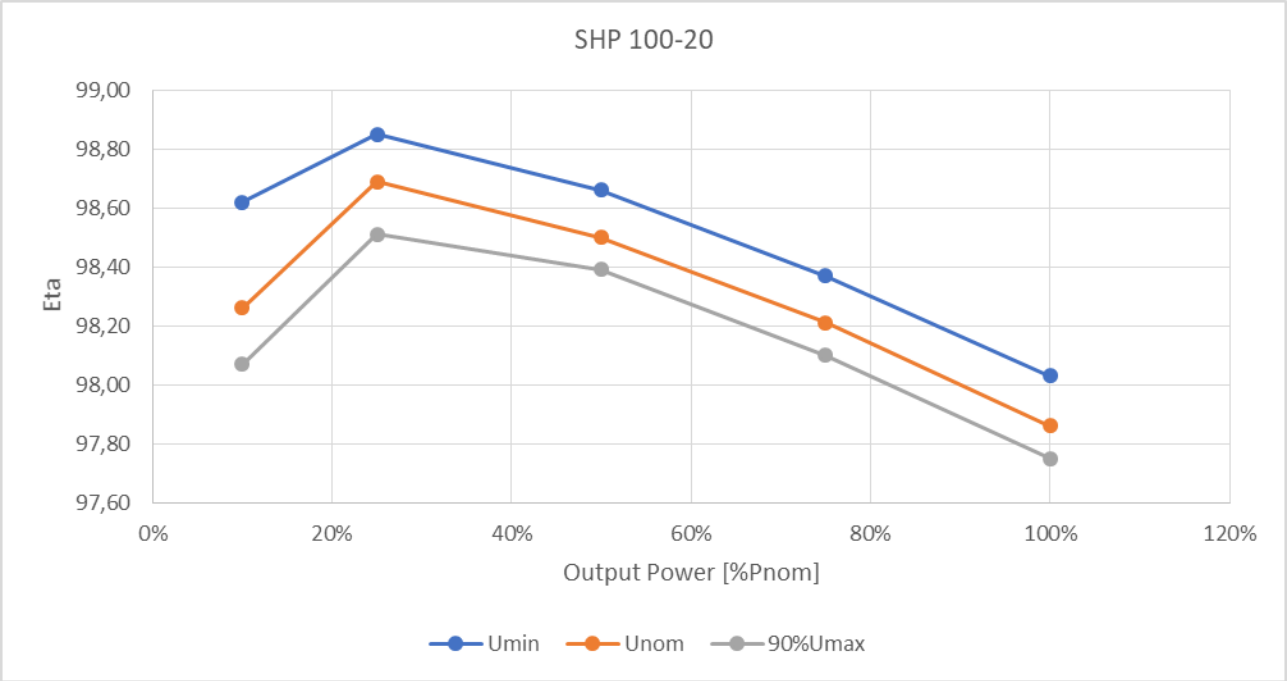
Measuring of efficiency

Extract from test report according the IEC 61683 **Nr. 18TH0282-IEC61683_0**

Efficiency measurement conditions test results

SHP 100-20

Input voltage [Vdc]		Power in [kW] (nom. 100kW)				
		10%	**25%**	**50%**	**75%**	**100%**
		10,0	25,0	50,0	74,9	99,4
		η in [%]				
V_{min}	590	98,62	98,85	98,66	98,37	98,03
$V_{nominal}$	693	98,26	98,69	98,50	98,21	97,86
$V_{max\ (90\%\ MPPT)}$	900	98,07	98,51	98,39	98,10	97,75
$V_{max\ (MPPT)}$	1000	97,99	98,43	98,39	98,11	97,71



Note: