



Declaration of Conformity according to AS4777.2 and EN 60335-1

The grid connected inverters Sunny Boy SB 1100, SB1200, SB 1700 and Windy Boy WB 1100, WB 1200, WB 1700 comply with the following required standard grid connection of inverter systems in Australia:

Standards	Test type	Comments
AS4777.2 clause 4.1	Electrical safety Electrical safety in accordance to EN 60335-1:2002 + A11:2004 + A1:2004.	complies
AS4777.2 clause 4.2	Compatibility with electrical installations The inverters SB 1100, SB1200, SB 1700 and WB 1100, WB 1200, WB 1700 were physically inspected for the earthing connections between main components and chassis and good earthing practices were observed. The inverter output AC voltage and frequency comply with AS60038.	complies
AS4777.2 clause 4.3	Power flow direction In either direction.	noted
AS4777.2 clause 4.4	Power factor The inverters SB 1100, SB1200, SB 1700 and WB 1100, WB 1200, WB 1700 maintained a power factor in the range of 0,992 to 0,999 over the operating range from 20% to 100% of output. It does comply with the requirements of AS4777.2.	complies
AS4777.2 clause 4.5	Harmonic currents The inverter current THD is 2.68. The individual harmonic current components up to the 33rd are well within the limits and comply with the Australian Standard.	complies
AS4777.2 clause 4.6	Voltage fluctuations and flicker The flicker level is within the required limits under normal operation during the flicker test.	complies
AS4777.2 clause 4.7	Impulse protection After applying the impulse, the test inverter was tested for normal operation. The inverter operated normal. There is no significant change in the performance of the test inverter.	complies
AS4777.2 clause 4.8	Transient voltage limits During the trip with light electronic load, the worst case overvoltage observed was within the required envelope specified in the draft AS4777.2	complies
AS4777.2 clause 4.9	DC current injection The tested DC circuits of the inverters SB 1100, SB 1200, SB 1700 and WB 1100, WB 1200, WB 1700 incorporate a mains frequency isolating transformer.	no test required

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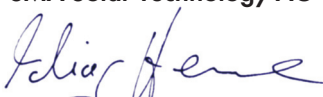
Standards	Test type	Comments
AS4777.3 clause 5.1	General The unit includes an automatic disconnecting facility for renewable power generator installations (under/ over voltage/ under/ over frequency and anti islanding), see test Report.	complies
AS4777.3 clause 5.2	Disconnect device The unit provides galvanic separation. The unit is switched off redundant by the high power bridge of the inverter and the relays in line and neutral.	complies
AS4777.3 clause 5.3	Voltage and frequency limits (passive anti islanding protection) The AC voltages and frequencies at which disconnection occurred were equal to the under/over voltage $\pm 5V$ and over/under frequency set points $\pm 5\%$ as per the requirements of AS4777.3. The disconnection times were less than 2 seconds.	complies
AS4777.3 clause 5.5	Active anti – islanding protection The test were performed under a range of local load conditions as required i.e. light electronic load, load match and load match plus 10%. The unit tripped within the required time (less than 2 seconds) under all local load conditions.	complies
AS4777.3 clause 5.6	Reconnection procedure The unit provides monitoring of the voltage, frequency and synchronisation. If one of these conditions is not met, the unit is not switching on.	complies
AS4777.3 clause 5.7	Settings Only available with password for the service personal.	complies

Conclusions:
The grid connected inverters SB 1100, SB 1200, SB 1700 and WB 1100, WB 1200, WB 1700 were tested for compliance with requirements of the "Australian guidelines for grid connection of energy systems via inverters". Based on the test results for the tested inverter it complies with the requirements of AS4777 parts 2 & 3 for grid connection of energy systems via inverters for the test mentioned in Table 4.

Test House Details: Bureau Veritas E&E Product Services GmbH Businesspark A96 86842 Türkheim, Germany	PHOENIX TESTLAB GmbH D-32825 Blomberg Germany	Only for AS4777.2 clause 4.1
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Product Family SB 1100/ 1200/ 1700 (WB 1100/ 1200/ 1700)
We hereby declare that the inverters Sunny Boy SB 1100, SB 1200, SB 1700 and Windy Boy WB 1100, WB 1200, WB 1700 technically are members of one single product family and have identical technical features.
The compliance of the SB 1700 according to Australian Standards AS4777 was tested at Bureau Veritas E&E Product Services GmbH and can be reviewed in the test report 09TH0223-AS4777_0 and in the electrical safety test report S51047 (AS4777.2 clause 4.1).

Niestetal, 18.08.2009
SMA Solar Technology AG



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(Director TSBPM)