



<p><b>TEST REPORT</b>  <b>CEC Guideline</b>  <b>Performance Test Protocol for Evaluating Inverters Used in Grid-Connected Photovoltaic Systems</b></p>	
<b>Report reference No.</b> .....	103003057LAX-001
<b>Tested by</b> (printed name and signature) .....	Matthew Ezell 
<b>Revised by</b> (Printed name and Signature) .....	
<b>Approved by</b> (printed name and signature) .....	Steven Pasternack 
<b>Date of issue</b> .....	April 13, 2017
<b>Revision Approved</b>	N/A
<b>Date</b> .....	
<b>Testing Laboratory Name</b> .....	Intertek Lake Forest
<b>Address</b> .....	25791 Commercentre Drive, Lake Forest, CA
<b>Testing location</b> .....	CCATL <input type="checkbox"/> SMT <input type="checkbox"/> NRTL <input checked="" type="checkbox"/>
<b>Applicant's Name</b> .....	Chilicon Power, LLC
<b>Address</b> .....	1563 Calle Patricia, Pacific Palisades, CA
<b>Test specification</b>	
<b>Standard</b> .....	CEC Guideline
<b>Test procedure</b> .....	Performance Test Protocol for Evaluating Inverters Used in Grid-Connected Photovoltaic Systems: March 1, 2005
<b>Non-standard test method</b> .....	None
<b>Test item description</b> .....	
<b>Trademark</b> .....	Chilicon
<b>Model and/or type reference</b> .....	CP-250E-60/72-208/240-MC4
<b>Rating(s)</b> .....	Input: 22V – 38.5V DC Output 1: 240V 289W Output 2: 208V 277W
<b>Manufacturer</b> .....	
<b>Address</b> .....	1563 Calle Patricia, Pacific Palisades, CA
<b>Testing</b>	
<b>Date of receipt of test item</b> .....	April 4, 2017
<b>Date(s) of performance of test</b> .....	April 4 to April 11, 2017

**(1) CP-250E-60/72-208/240-MC4, @ output 240Vac, 60Hz**

Manufacturer: Chilicon Power, LLC

Model #: CP-250E-60/72-208/240-MC4(240V data)

Rated Maximum Continuous Output Power: 289 W

Night Tare Loss: 0.06 W

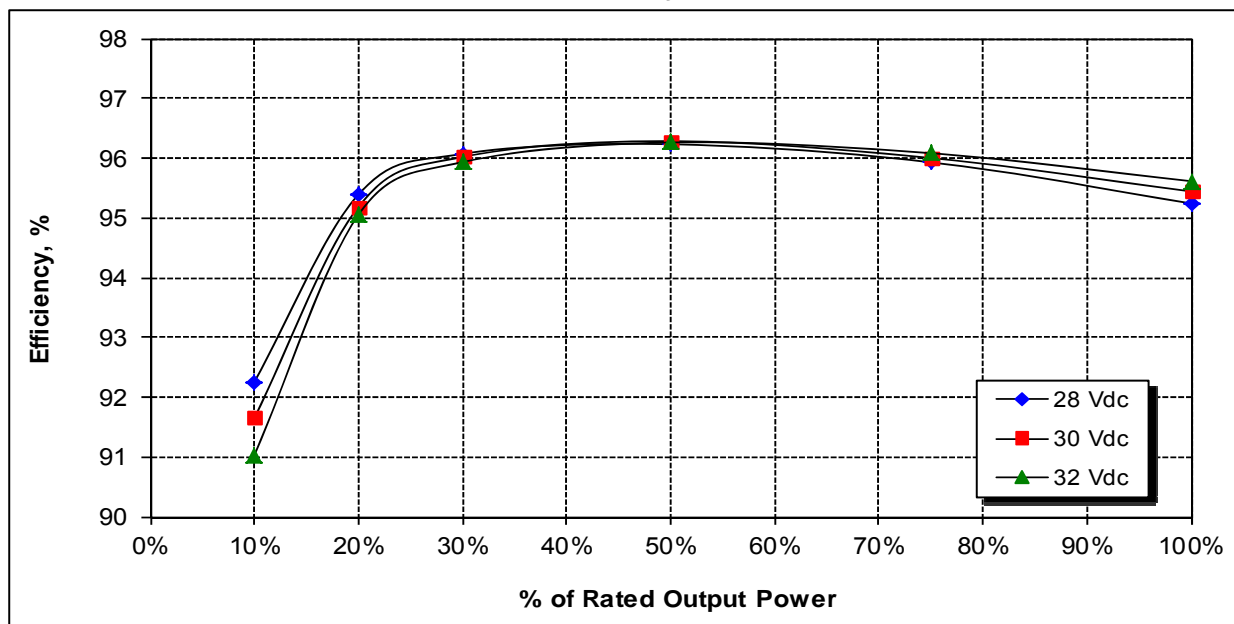
Vmin: 28 Vdc

Vnom: 30 Vdc

Vmax: 32 Vdc

Input Voltage (Vdc)	Power Level (%; W)						Wtd
	10%	20%	30%	50%	75%	100%	
Vmin 28	92.3	95.4	96.1	96.2	95.9	95.2	95.8
Vnom 30	91.6	95.2	96.0	96.3	96.0	95.4	95.8
Vmax 32	91.0	95.1	95.9	96.3	96.1	95.6	95.8

**CEC Efficiency = 96.0%**



Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
001339 Pr	rogrammable AC Power	Ametek	CSW5550-208-LAN	1318A02131	NA	NA
001547	Programmable DC Power	BK Precision	BK9116	602078010707010023	NA	NA
001434 T	emperature Data	Fluke	2638A	26570206	04/15/2016	04/15/2017
001065	Test Chamber	TPS	T30RC - 2.0	1103000052	VBU	VBU
001051 P	ower Anayzer	Yokogawa Corp	760304-04-SV-D	91L223516	12/14/2016	12/14/2017

Minimum of 5 samples required																
Specified		Sample #1			Sample #2			Sample #3			Sample #4			Sample #5		
Output Power	Input Voltage	Output Power	Input Voltage	Efficiency	Output Power	Input Voltage	Efficiency	Output Power	Input Voltage	Efficiency	Output Power	Input Voltage	Efficiency	Output Power	Input Voltage	Efficiency
(% of rated)	(Vdc)	(W)	(Vdc)	(%)	(W)	(Vdc)	(%)	(W)	(Vdc)	(%)	(W)	(Vdc)	(%)	(W)	(Vdc)	(%)
10%	Vmin	28.49	27.95	92.26	28.48	27.94	92.26	28.48	27.94	92.25	28.49	27.95	92.26	28.48	27.97	92.25
20%	Vmin	60.61	27.91	95.39	60.41	27.93	95.39	60.29	27.93	95.39	60.29	27.92	95.39	60.49	27.91	95.39
30%	Vmin	90.60	27.83	96.07	90.42	27.83	96.07	90.47	27.82	96.07	90.62	27.81	96.07	90.75	27.80	96.07
50%	Vmin	142.36	28.21	96.23	142.21	28.21	96.23	142.26	28.21	96.23	142.33	28.19	96.23	142.55	28.17	96.23
75%	Vmin	202.01	27.97	95.93	202.06	27.99	95.93	201.95	28.01	95.93	201.82	28.01	95.93	201.75	28.01	95.93
100%	Vmin	272.74	28.20	95.24	272.72	28.23	95.24	272.62	28.23	95.24	272.55	28.22	95.24	272.59	28.20	95.24
10%	Vnom	28.50	29.87	91.65	28.27	29.89	91.64	28.06	29.90	91.65	27.99	29.90	91.65	28.17	29.89	91.64
20%	Vnom	59.69	29.90	95.19	59.62	29.90	95.19	59.82	29.88	95.19	60.09	29.86	95.18	60.03	29.87	95.18
30%	Vnom	90.22	29.87	96.02	90.03	29.89	96.02	89.86	29.90	96.02	89.91	29.90	96.02	89.91	29.89	96.02
50%	Vnom	142.56	29.83	96.28	142.72	29.82	96.28	142.75	29.82	96.28	142.65	29.84	96.29	142.50	29.86	96.28
75%	Vnom	210.62	30.34	96.00	210.77	30.34	96.00	210.66	30.32	96.00	210.86	30.30	96.00	210.85	30.30	96.00
100%	Vnom	277.52	30.61	95.44	277.53	30.60	95.44	277.52	30.60	95.44	277.68	30.57	95.44	277.67	30.57	95.44
10%	Vmax	28.65	31.93	91.04	28.44	31.95	91.03	28.18	31.96	91.03	28.20	31.96	91.03	28.26	31.95	91.02
20%	Vmax	62.21	32.03	95.05	62.22	32.03	95.06	62.28	32.01	95.06	62.51	32.00	95.06	62.79	31.99	95.05
30%	Vmax	90.12	31.88	95.93	90.14	31.88	95.94	90.30	31.87	95.93	90.48	31.84	95.93	90.54	31.84	95.93
50%	Vmax	147.33	32.01	96.26	147.54	31.98	96.26	147.64	31.98	96.26	147.66	31.99	96.26	147.47	32.01	96.26
75%	Vmax	204.68	32.29	96.08	204.65	32.29	96.08	204.62	32.30	96.08	204.52	32.32	96.08	204.38	32.33	96.08
100%	Vmax	273.32	32.03	95.62	273.40	32.03	95.61	273.43	32.04	95.61	273.32	32.06	95.61	273.13	32.07	95.61

**(2) CP-250E-60/72-208/240-MC4, @ output 208Vac, 60Hz**

Manufacturer: Chilicon Power, LLC

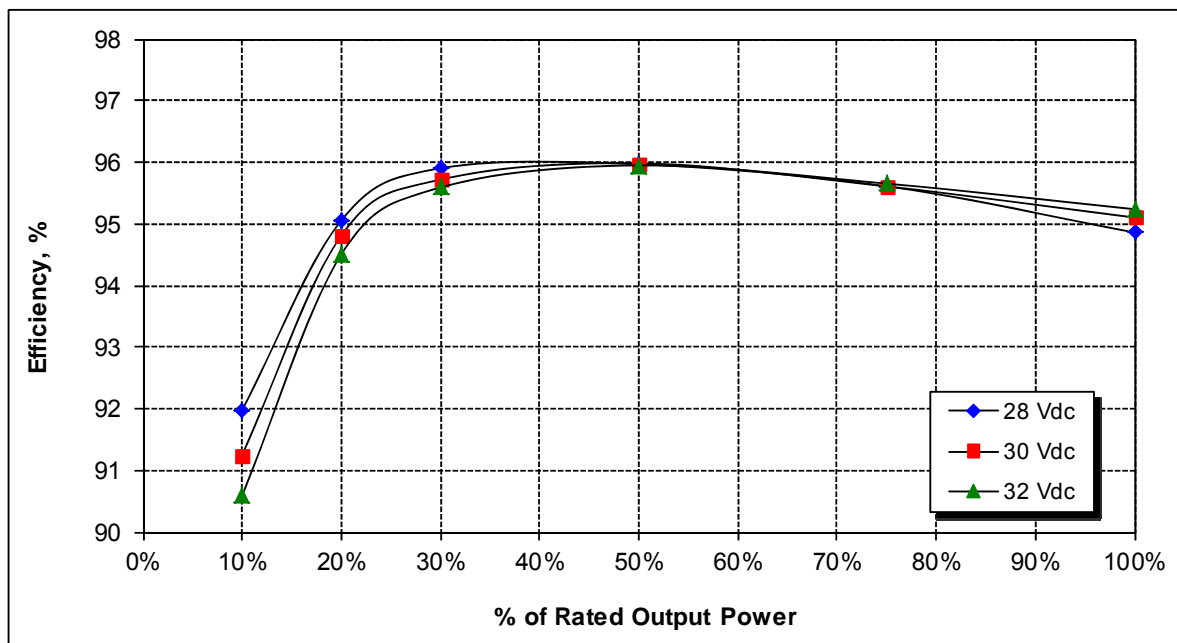
Model #: CP-250E-60/72-208/240-MC4(208V data)

Rated Maximum Continuous Output Power: 277 W      Night Tare Loss: 0.02 W

Vmin: 28 Vdc      Vnom: 30 Vdc      Vmax: 32 Vdc

Input Voltage (Vdc)	Power Level (%; W)						Wtd
	10%	20%	30%	50%	75%	100%	
Vmin 28	92.0	95.1	95.9	96.0	95.6	94.9	95.5
Vnom 30	91.2	94.8	95.7	96.0	95.6	95.1	95.5
Vmax 32	90.6	94.5	95.6	95.9	95.7	95.2	95.4

**CEC Efficiency = 95.5%**



All Efficiency data is within 3 standard deviations from the average?    Pass

All input power levels are within tolerances during Efficiency Test?    Pass

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
001339 Pr	rogrammable AC Power	Ametek	CSW5550-208-LAN	1318A02131	NA	NA
001547	Programmable DC Power	BK Precision	BK9116	602078010707010023	NA	NA
001434 T	emperature Data	Fluke	2638A	26570206	04/15/2016	04/15/2017
001065	Test Chamber	TPS	T30RC - 2.0	1103000052	VBU	VBU
001051	Power Anayzer	Yokogawa Corp	760304-04-SV-D	91L223516	12/14/2016	12/14/2017

Minimum of 5 samples required																
Specified		Sample #1			Sample #2			Sample #3			Sample #4			Sample #5		
Output Power	Input Voltage	Output Power	Input Voltage	Efficiency	Output Power	Input Voltage	Efficiency	Output Power	Input Voltage	Efficiency	Output Power	Input Voltage	Efficiency	Output Power	Input Voltage	Efficiency
(% of rated)	(Vdc)	(W)	(Vdc)	(%)	(W)	(Vdc)	(%)	(W)	(Vdc)	(%)	(W)	(Vdc)	(%)	(W)	(Vdc)	(%)
10%	Vmin	27.40	27.89	91.98	27.37	27.89	91.97	27.57	27.87	91.98	27.53	27.88	91.98	27.35	27.89	91.98
20%	Vmin	54.39	27.92	95.06	54.53	27.91	95.06	54.61	27.90	95.06	54.64	27.91	95.05	54.45	27.92	95.06
30%	Vmin	89.71	27.83	95.90	89.62	27.84	95.90	89.60	27.83	95.90	89.71	27.82	95.90	89.92	27.80	95.90
50%	Vmin	140.68	27.99	95.97	140.77	27.99	95.97	140.81	27.98	95.97	140.73	28.01	95.97	140.64	28.02	95.97
75%	Vmin	195.29	28.22	95.61	195.31	28.21	95.61	195.45	28.19	95.61	195.44	28.20	95.61	195.45	28.20	95.61
100%	Vmin	264.01	28.20	94.86	264.08	28.17	94.86	264.16	28.17	94.86	264.24	28.17	94.86	264.17	28.20	94.86
10%	Vnom	27.54	30.02	91.25	27.29	30.03	91.25	27.30	30.03	91.26	27.38	30.03	91.24	27.57	30.01	91.24
20%	Vnom	55.50	30.06	94.81	55.35	30.06	94.82	55.35	30.07	94.81	55.42	30.05	94.81	55.62	30.03	94.81
30%	Vnom	83.64	30.05	95.72	83.76	30.05	95.72	83.81	30.04	95.72	83.62	30.06	95.72	83.46	30.08	95.72
50%	Vnom	139.18	30.01	95.98	139.16	30.02	95.98	139.07	30.03	95.98	138.84	30.05	95.98	138.94	30.04	95.98
75%	Vnom	207.83	30.02	95.61	207.90	30.02	95.61	207.75	30.04	95.61	207.67	30.05	95.61	207.66	30.06	95.61
100%	Vnom	264.00	30.07	95.10	263.97	30.06	95.10	264.05	30.04	95.10	264.12	30.04	95.10	264.22	30.03	95.10
10%	Vmax	27.37	31.96	90.60	27.33	31.96	90.59	27.51	31.95	90.59	27.69	31.93	90.59	27.68	31.94	90.59
20%	Vmax	55.50	31.98	94.51	55.47	31.98	94.51	55.67	31.96	94.51	55.85	31.95	94.50	55.88	31.95	94.51
30%	Vmax	83.88	31.98	95.59	83.94	31.96	95.59	84.08	31.95	95.59	84.22	31.94	95.59	84.23	31.95	95.59
50%	Vmax	138.17	31.98	95.95	138.13	32.00	95.95	138.05	32.01	95.95	137.86	32.03	95.95	137.89	32.02	95.95
75%	Vmax	208.00	32.08	95.65	208.12	32.06	95.65	208.13	32.08	95.65	208.05	32.08	95.65	207.81	32.11	95.66
100%	Vmax	264.23	32.04	95.24	264.28	32.05	95.24	264.30	32.06	95.24	264.27	32.07	95.24	264.05	32.09	95.24

-----END OF REPORT-----