

## T e s t R e p o r t

**Report No** : U10037 Amd 2

**Client:** : Link By Design Ltd  
Business Development Centre  
Stafford Park 4  
Telford  
Shropshire  
TF3 3BA

**Description** : Invinca VAS

**Manufacturer** : Not disclosed

**Type/Model** : GA283-01

**Test Specification** : Measurement of power consumption in accordance with the  
'Unmetered Supplies Operational Information Document' –  
Version 17.0 (15/03/2017)

**Date Testing Started** : 25/06/2018

**Conclusion** : Refer to body of report

**Date of Issue** : 11/07/2018

**Date of Expiry** : 01/07/2023

**Tested by:** E. PERRY  
**Position:** Technical Administrator  
Apprentice



**Approved by:** T. MALIK  
**Position:** Operations Manager



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**Note:** This amendment 2 includes omission of additional table which was added in error.

## **INTRODUCTION**

Link By Design Ltd has supplied the product identified in table 1 for measurement of power consumption in accordance with the 'Unmetered Supplies Operational Information Document' – Version 17.0 (15/03/2017).

The units were configured to display the image with the highest power consumption (Your Speed) during testing.

## **PRODUCT DETAILS**

**Table 1. Test Sample Details**

Product Description	Invinca VAS
Model No.	GA283-01
Number of Samples	Five
Condition on Receipt	Good
Nominal Dimensions	Ø – 610mm; H – 250mm
Product Supply Requirement	220-240V AC, 50/60Hz
Lamp Type and Power	LED, Variable power
Sampling Method: Test samples selected and supplied by client, no sampling method specified by client.	

The customer has declared that the equipment load does not vary with ambient temperature.

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## **RESULTS**

**Table 2. Wattage and VA results for Invinca VAS**

Operating Mode	100% (Brightness Level 31)				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	23.02	23.12	23.09	23.12	23.23
220	23.04	23.17	23.13	23.14	23.24
230	23.08	23.19	23.18	23.17	23.26
240	23.12	23.23	23.22	23.21	23.31
250	23.15	23.26	23.26	23.24	23.37
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	53.46	54.02	53.32	52.85	52.30
220	55.02	55.65	54.67	54.21	54.23
230	56.54	57.02	55.95	55.89	55.62
240	58.18	58.46	57.43	56.98	56.99
250	59.48	60.12	58.76	58.37	58.41
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.43	0.43	0.43	0.44	0.44
220	0.42	0.42	0.42	0.43	0.43
230	0.41	0.41	0.41	0.41	0.42
240	0.40	0.40	0.40	0.41	0.41
250	0.39	0.39	0.40	0.40	0.40
Ambient Temperature During Test (°C)			25.5		
PF Leading/Lagging			Leading		

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**Table 3. Wattage and VA results for Invinca VAS**

Operating Mode	65% (Brightness Level 20)				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	17.90	18.01	17.98	17.98	18.06
220	17.93	18.08	18.02	18.02	18.11
230	17.98	18.08	18.07	18.06	18.13
240	18.03	18.12	18.11	18.10	18.19
250	18.07	18.18	18.17	18.14	18.21
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	44.59	45.16	44.33	44.26	44.06
220	45.82	46.47	45.54	45.42	45.33
230	47.15	47.76	46.88	46.62	46.51
240	48.54	49.13	48.20	47.97	47.87
250	49.94	50.52	49.61	49.33	49.37
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.40	0.40	0.41	0.41	0.41
220	0.39	0.39	0.40	0.40	0.40
230	0.38	0.38	0.39	0.39	0.39
240	0.37	0.37	0.38	0.38	0.38
250	0.36	0.36	0.37	0.37	0.37
Ambient Temperature During Test (°C)			25.5		
PF Leading/Lagging			Leading		

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**Table 4. Wattage and VA results for Invinca VAS**

Operating Mode	26% (Brightness Level 8)				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	12.39	12.47	12.47	12.27	12.52
220	12.44	12.54	12.53	12.31	12.57
230	12.50	12.59	12.59	12.34	12.61
240	12.55	12.64	12.64	12.41	12.68
250	12.61	12.68	12.70	12.45	12.70
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	34.58	34.81	34.69	33.84	34.21
220	35.89	36.17	35.86	35.18	35.49
230	37.31	37.56	37.21	36.58	36.79
240	38.77	39.03	38.61	38.09	38.23
250	40.29	40.53	40.06	39.62	39.63
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.36	0.36	0.36	0.36	0.37
220	0.35	0.35	0.35	0.35	0.35
230	0.34	0.34	0.34	0.34	0.34
240	0.32	0.32	0.33	0.33	0.33
250	0.31	0.31	0.32	0.31	0.32
Ambient Temperature During Test (°C)			25.6		
PF Leading/Lagging			Leading		

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**Table 5. Wattage and VA results for Invinca VAS**

Operating Mode	10% (Brightness Level 3)				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	10.15	10.22	10.24	10.02	10.07
220	10.20	10.28	10.30	10.08	10.10
230	10.24	10.33	10.35	10.12	10.18
240	10.27	10.37	10.39	10.16	10.21
250	10.30	10.40	10.42	10.19	10.27
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	30.60	30.78	30.55	30.14	29.89
220	31.96	32.12	31.88	31.52	31.23
230	33.41	33.62	33.29	32.98	32.66
240	34.88	35.13	34.75	34.49	34.09
250	36.40	36.82	36.24	36.06	35.61
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.33	0.33	0.34	0.33	0.34
220	0.32	0.32	0.32	0.32	0.32
230	0.31	0.31	0.31	0.31	0.31
240	0.29	0.30	0.30	0.29	0.30
250	0.28	0.28	0.29	0.28	0.29
Ambient Temperature During Test (°C)			25.6		
PF Leading/Lagging			Leading		

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**Table 6. Wattage and VA results for Invinca VAS**

Operating Mode	Minimum (Brightness level 0)				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	8.70	8.78	8.81	8.60	8.68
220	8.73	8.82	8.81	8.62	8.71
230	8.77	8.86	8.87	8.63	8.73
240	8.81	8.90	8.92	8.66	8.75
250	8.84	8.93	8.95	8.70	8.80
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	28.13	28.32	28.04	27.82	27.59
220	29.49	29.70	28.08	29.18	28.88
230	30.98	31.21	30.85	30.63	30.26
240	32.52	32.74	32.37	32.17	31.71
250	34.12	34.35	33.92	33.80	33.24
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.31	0.31	0.31	0.31	0.31
220	0.30	0.30	0.31	0.30	0.30
230	0.28	0.28	0.29	0.28	0.29
240	0.27	0.27	0.28	0.27	0.28
250	0.26	0.26	0.26	0.26	0.26
Ambient Temperature During Test (°C)			25.6		
PF Leading/Lagging			Leading		

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**Table 7. Wattage and VA results for Invinca VAS**

Operating Mode	Radar				
Watts					
Voltage	Sample Number				
	1	2	3	4	5
210	8.24	8.38	8.35	8.25	8.36
220	8.57	8.17	8.38	8.53	8.67
230	8.54	8.42	8.43	8.57	8.70
240	8.58	8.21	8.47	8.61	8.74
250	8.62	8.23	8.75	8.43	8.76
VA					
Voltage	Sample Number				
	1	2	3	4	5
210	26.68	27.59	27.08	27.22	27.53
220	28.59	28.44	28.50	29.06	29.46
230	29.96	30.31	30.03	30.61	31.05
240	31.49	31.53	31.58	32.19	32.67
250	33.07	33.13	33.55	33.48	34.33
Power Factor					
Voltage	Sample Number				
	1	2	3	4	5
210	0.31	0.30	0.31	0.30	0.30
220	0.30	0.29	0.29	0.29	0.29
230	0.29	0.28	0.28	0.28	0.28
240	0.27	0.26	0.27	0.27	0.27
250	0.26	0.25	0.26	0.25	0.26
Ambient Temperature During Test (°C)			25.6		
PF Leading/Lagging			Leading		



### **DEVIATION(S) FROM TEST STANDARD**

No reported deviations from test standard.

### **MEASUREMENT UNCERTAINTY**

The following expanded uncertainties apply to the measurements shown in the results;

True Power (W):  $\pm 0.69\%$ , Apparent Power (VA):  $\pm 0.61\%$

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor  $k=2$ , providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

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## ILLUSTRATION



Figure 1. *Product image*

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