	<b>Lexmark Acoustics and Energy Laboratory</b>	2012052262-PCb*
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<b>Measurement and Reporting of Product Power Consumption</b>		

## **Product Power Consumption Measurements on Lexmark MS811n / MS811dn / MS811dtn Monochrome Laser Printer**

### **General**

The Lexmark AEL (Acoustics and Energy) Laboratory is the sole source of product power consumption measurement and claims for Lexmark International, Inc. The lab performs measurement on all Lexmark products as well as products designed and manufactured by Lexmark for other Customers. The lab has quality policies consistent with ISO 9001 and the Lexmark-Lexington Sites is qualified for ISO 9001.

### **Referenced Test Standards**

The product power consumption measurements were carried out in accordance with the following test protocols and standards

1. "ENERGY STAR Program Requirements for Imaging Equipment , V1.2"
2. IEC 62301, Ed 1.0 (2005)
3. Lexmark Energy Test Process Manual, V1.5

### **Measurement Equipment**

The following measurement equipment is used in the power consumption testing. All measurement equipment is calibrated on an annual basis.

<b>Equipment</b>	<b>Type</b>	<b>Accuracy</b>	<b>Date of Last Calibration</b>
<b>Universal Power Analyzer</b>	Yokogawa WT1600	0.2% of Range	2011-10-06 <i>(Equipment is calibrated every 12 months)</i>
<b>AC Power Source</b>	Pacific Power Source Corp, Model AMX-360	Voltage: 0.03% of Command Voltage Frequency: 0.01 Hz Load Regulation 0.25% Max THD: 0.1% , Response time: 5µs	Factory Cal Only <i>Annual Calibration not required as Power Analyzer Verifies AC Source</i>

### **Environmental Conditions in Test Room during Test**

- Temperature: 21.5 - 22.8°C
- Relative Humidity: 22 - 50 %
- Barometric Pressure: 97.9 - 99.2 kPa

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Acoustics and Energy Laboratory Bldg 032-2, Room 10D1-2 740 West New Circle Road Lexington, Kentucky 40550	August 14, 2012	Page 2 of 4
<b>Measurement and Reporting of Product Power Consumption</b>		


**Test Information<sup>y</sup> and Operating Conditions:**

Product under Test	Lexmark MS811dtn		
Product Type	Mono EP Printer		
Operating Condition	Product was tested in the factory default condition		
Paper Type	Paper Used in TEC testing follows Requirements in Reference [3]		
Supply Voltage	<input checked="" type="checkbox"/> 100 V / 50 Hz <input checked="" type="checkbox"/> 115 V / 60 Hz <input checked="" type="checkbox"/> 230V / 50 Hz		
Rates Speed	63 ppm		
Power Supply Type	Internal Power Supply (AC-DC)		
Interfaces used during Test	<input type="checkbox"/> USB <input checked="" type="checkbox"/> Wired Network <input type="checkbox"/> Wireless Network		
Accessories attached to base Product	(1X) 550 Sheet Input Tray		
Serial Numbers		<b>100 V</b>	<b>115 V</b>
		406313790004C	406313790004C
Test IDs	T213-11 through T213-44		M213-5 through M213-28
	2012-04-10 through 2012-06-29		
Date(s) of Test			
Test Performed by	R. Harvey		

Sleep Mode timeout is 30 minutes. Product under test is the highest power consuming model.


**Measurement Results**

The following measurement results are evaluated for compliance with the ENERGY STAR Imaging Equipment V1.2.

Submitted and Approved by: 

David W. DeVore  
AEL Laboratory, Quality Manager  
Lexmark International, Inc.


Note(≠): The results reported here relate only to the specific items tested and to the specific configurations tested. This report shall not be reproduced, except in full, without the written approval of the Lexmark AEL (Acoustics and Energy) Laboratory.

	<b>Lexmark Acoustics and Energy Laboratory</b>	2012052262-PCb *
Acoustics and Energy Laboratory Bldg 032-2, Room 10D1-2 740 West New Circle Road Lexington, Kentucky 40550	August 14, 2012	Page 3 of 4
<b>Measurement and Reporting of Product Power Consumption</b>		

**Test Results – ENERGY STAR Imaging Equipment V1.2 Requirements**

**Table 1: ENERGY STAR TEC Test and Evaluation “Default” and “Eco Energy” Mode**

<b>Lexmark MS811n / MS811dn / MS811dtn</b>							
	<b>Default Mode TEC Calculations</b>			<b>ECO Energy Mode - TEC Calculations</b>			
	<b>100V</b>	<b>115V</b>	<b>230V</b>	<b>100V</b>	<b>115V</b>	<b>230V</b>	<b>Description</b>
Test-Id	T213-44	T213-39	T213-40	T213-19	T213-11	T213-30	
PPM	63	63	63	63	63	63	<i>Pages/minute</i>
Raw Pg/Day	1984.5	1984.5	1984.5	1984.5	1984.5	1984.5	<i>Pages/Day</i>
<b>Testing Information</b>							
Job/Day	32	32	32	32	32	32	<i>Jobs</i>
Pages/Job	62	62	62	62	62	62	<i>Pages</i>
Pages/Day	1984	1984	1984	1984	1984	1984	<i>Pages</i>
<b>Energy Calculations</b>							
Job 1 Energy	26.69	26.81	26.42	20.91	16.64	18.05	<i>w-h</i>
Job 2 Energy	24.09	23.67	22.86	18.39	16.18	17.15	<i>w-h</i>
Job 3 Energy	23.49	23.12	22.30	18.05	16.11	16.93	<i>w-h</i>
Job 4 Energy	23.30	23.00	22.17	17.78	15.96	16.74	<i>w-h</i>
Job 2-4 Average Energy	23.63	23.26	22.44	18.07	16.08	16.94	<i>w-h</i>
Sleep Power	3.96	4.03	4.02	3.87	3.97	3.99	<i>w</i>
Final Ready Energy	7.96	8.08	8.00	7.808	1.246	1.262	<i>w-h</i>
Final Ready Time	0.32	0.32	0.32	0.320	0.320	0.320	<i>hr</i>
<b>Results</b>							
Average Job Energy	23.6	23.3	22.4	18.1	16.1	16.9	<i>w-h</i>
Daily Job Energy	762.2	751.5	726.1	584.0	515.8	544.3	<i>w-h</i>
Daily Sleep Energy	60.8	61.9	61.7	59.4	61.0	61.3	<i>w-h</i>
WorkDay Energy	838.9	829.6	803.9	659.1	579.3	608.1	<i>w-h/workday</i>
TEC Value (wh)	<b>4384.7</b>	4341.4	4212.4	3481.2	3086.8	3232.1	<i>w-h/week</i>
TEC Value (kwh)	<b>4.38</b>	<b>4.34</b>	<b>4.21</b>	<b>3.48</b>	<b>3.09</b>	<b>3.23</b>	<i>kwh/week</i>
TEC Limit	<b>11.75</b>						<i>kwh/week</i>
Duplex Capability	Standard Feature						<b>Meets Requirement</b>
Duplex Requirement							

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Acoustics and Energy Laboratory Bldg 032-2, Room 10D1-2 740 West New Circle Road Lexington, Kentucky 40550	August 14, 2012	Page 4 of 4
<p align="center"><b>Measurement and Reporting of Product Power Consumption</b></p>		

**Table 2: Additional Power measurements by Product Mode**

Mode	Supply Voltage			Claim
	100 V / 50 Hz	115 V / 60 Hz	230 V / 50 Hz	
Plugged in Off Mode	0.0	0.0	0.0	<b>0.1</b>
Simplex Printing	755	752	759	<b>770</b>
Duplex Printing	555	546	548	<b>560</b>
Ready <sup>1</sup> Mode	40.3	41.1	51.5	<b>55</b>
Ready <sup>2</sup> Mode	27.3	28	30.3	<b>30</b>
Sleep Mode	4.0	4.0	4.0	<b>4.1</b>
Hibernate Mode	0.42	0.44	0.45	<b>0.5</b>
TEC*	4.4	4.3	4.2	<b>4.4</b>
TEC (Eco)*	3.5	3.1	3.2	<b>3.2</b>