

Product Sheet, GEEA Criteria 2007
Imaging Equipment Other Devices



Scope

Analogue and digital imaging equipment included are products that do not utilize the Typical Electricity Consumption (TEC) method. Examples of products that will be tested with this OM method include those that use marking technologies such as ink jet, dot matrix or impact, as well as scanners and all large-format devices. The models concerned must be available through the trade in Europe in the same configuration as indicated in the registration. The product as sold to the customer should be able to operate on mains voltage (230 V AC). This includes portable equipment that is sold with an external power supply.

Criteria

Imaging equipment other devices complies with GEEA criteria if the following criteria are met:

Category	Criteria	Basis for criteria
Copiers, multifunctional devices	The OM* (operational mode) consumption is less than or equal to:	ENERGY STAR
	Power mode	OM
Large format	Sleep	58** W
Color and monochrome, dye sublimation, electrophotography, thermal transfer, direct thermal solid ink	Maximum default delay time setting for sleep is less than or equal to the values listed below:	ENERGY STAR
	Images per minute (ipm)	Copiers (min.) MFDs (min.)
	0 - 10	30 30
	11 - 20	30 30
	21 - 30	30 30
	31 - 50	30 60
	51 +	60 60
Fax machines, multifunctional devices, printers	The OM* (operational mode) consumption is less than or equal to:	ENERGY STAR
	Power mode	OM
Standard	Without fax: Standby	1 W
	With fax: Standby	2 W
	Sleep	3 W
Color and monochrome, inkjet	Maximum default delay time setting for sleep is less than or equal to the values listed below:	ENERGY STAR
	Images per minute (ipm)	Fax (min.) MFDs (min.) Printers (min.)
	0 - 10	5 15 5
	11 - 20	5 30 15
	21 - 30	5 60 30
	31 - 50	5 60 60
	51 +	5 60 60



Category	Criteria	Basis for criteria																		
Multifunction devices, printers	The OM* (operational mode) consumption is less than or equal to:	ENERGY STAR																		
Large format	Power mode	OM																		
	Sleep	13** W																		
Color and monochrome, inkjet	Maximum default delay time setting for sleep is less than or equal to the values listed below:	ENERGY STAR																		
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51 +	60	60																		
Mailing machines	The OM* (operational mode) consumption is less than or equal to:	ENERGY STAR																		
Electrophotography, thermal transfer, direct thermal, inkjet	Power mode	OM																		
	Sleep	3** W																		
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151 +	60																			
Printers	The OM* (operational mode) consumption is less than or equal to:	ENERGY STAR																		
Small format	Power mode	OM																		
	Without fax: Standby	1 W																		
Color and monochrome, dye sublimation, electrophotography, thermal transfer, direct thermal, solid ink, inkjet, impact	With fax: Standby	2 W																		
	Sleep	3 W																		
	Maximum default delay time setting for sleep is less than or equal to the values listed below:	ENERGY STAR																		
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Printers	The OM* (operational mode) consumption is less than or equal to:	ENERGY STAR																		
Standard	Power mode	OM																		
	Without fax: Standby	1 W																		
Color and monochrome, impact	With fax: Standby	2 W																		
	Sleep	6 W																		
	Maximum default delay time setting for sleep is less than or equal to the values listed below:	ENERGY STAR																		
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Category	Criteria	Basis for criteria
Scanners	The OM* (operational mode) consumption is less than or equal to:	ENERGY STAR
Large format, small format, standard	Power mode	OM
	Without fax: Standby	1 W
	With fax: Standby	2 W
	Sleep	5 W
	Maximum default delay time setting for sleep is less than or equal to the values listed below:	ENERGY STAR
	Images per minute (ipm)	Scanners (min.)
	0 - 10	15
	11 - 20	15
	21 - 30	15
	31 - 50	15
	51 +	15
Printers	The OM* (operational mode) consumption is less than or equal to:	ENERGY STAR
Large format	Power mode	OM
	Sleep	54** W
Color and monochrome, dye sublimation, electrophotography, thermal transfer, direct thermal, solid ink, impact	Maximum default delay time setting for sleep is less than or equal to the values listed below:	ENERGY STAR
	Images per minute (ipm)	Printers (min.)
	0 - 10	30
	11 - 20	30
	21 - 30	30
	31 - 50	60
	51 +	60

* Defined in ENERGY STAR Qualified Imaging Equipment Operational Mode (OM) Test Procedure.

** See Table I 'OM functional adders'. Manufactures may apply no more than three primary functional adders, but may apply as many secondary adders as present.





Definition

Term	Definition
Standard size	Products categorized as standard include those designed for standard-sized media (e.g., letter, legal, ledger, A3, A4, and B4), including those designed to accommodate continuous-form media at widths between 210 mm and 406 mm. standard-size products may also be capable of printing on small-format media.
Large format	Products categorized as large format include those designed for A2 media and larger, including those designed to accommodate continuous-form media at a width of 406 millimeters (mm) or wider. Large-format products may also be capable of printing on standard size or small-format media.
Small format	Products categorized as small format include those designed for media sizes smaller than those defined as Standard (e.g., A6, 4" x 6", microfilm), including those designed to accommodate continuous-form media at widths smaller than 210 mm.
Sleep mode	The reduced power state that the product enters automatically after a period of inactivity. In addition to entering sleep automatically, the product may also enter this mode 1) at a user set time-of-day, 2) immediately in response to user manual action, without actually turning off, or 3) through other, automatically-achieved ways that are related to user behavior. All product features can be enabled in this mode and the product must be able to enter active mode by responding to any potential input options designed into the product; however, there may be a delay. Potential inputs include external electrical stimulus (e.g., network stimulus, fax call, remote control) and direct physical intervention (e.g., activating a physical switch or button). The product must maintain network connectivity while in sleep, waking up only as necessary.
Standby mode	The lowest power consumption mode which cannot be switched off (influenced) by the user and that may persist for an indefinite time when the product is connected to the main electricity supply and used in accordance with the manufacturer's instructions.

Test method

Operational Mode (OM) Approach: A method of testing and comparing the energy performance of imaging equipment products, which focuses on product energy consumption in various low power modes. The key criteria used by the OM approach are values for low-power modes, measured in watts (W). Detailed information can be found in the "ENERGY STAR Qualified Imaging Equipment Operational Mode Test Procedure" available at www.energystar.gov/products.

Basis for criteria

ENERGY STAR: ENERGY STAR Program Requirements for Imaging Equipment (Version 1.0)

Table I. OM Functional Adders

Since products are expected to be shipped with one or more functions beyond a basic marking engine, the corresponding allowances below should be added to the marking engine criteria for Sleep. The total value for the base product with applicable "functional adders" should be used to determine eligibility. Manufacturers may apply no more than **three** Primary functional adders to each product model, but may apply as many Secondary adders as present (with Primary adders in excess of three included as Secondary adders).

For the adder allowances shown in the table, distinctions are made for "Primary" and "Secondary" types of adders. These designations refer to the state in which the interface is required to remain while the imaging product is in Sleep. Connections that remain active during the OM test procedure while the imaging product is in Sleep are defined as Primary, while

Reference: IT05-2007

connections that can be inactive while the imaging product is in Sleep are defined as Secondary. Most functional adders typically are Secondary types.



Type	Details	Functional Adder Allowances (W)	
		Primary	Secondary
Interfaces	A. Wired < 20 MHz	0.3	0.2
	A physical data- or network-connection port present on the imaging product that is capable of a transfer rate < 20 MHz. Includes USB 1.x, IEEE488, IEEE 1284/Parallel/Centronics and RS232.		
	B. Wired ≥ 20 MHz and < 500 MHz	0.5	0.2
	A physical data- or network-connection port present on the imaging product that is capable of a transfer rate ≥ 20 MHz and < 500 MHz. Includes USB 2.x, IEEE 1394/FireWire/i.LINK, and 100Mb Ethernet.		
	C. Wired ≥ 500 MHz	1.5	0.5
	A physical data- or network-connection port present on the imaging product that is capable of a transfer rate ≥ 500 MHz. Includes 1G Ethernet.		
	D. Wireless	3.0	0.7
	A data- or network-connection interface present on the imaging product that is designed to transfer data via radio-frequency wireless means. Includes Bluetooth and 802.11.		
	E. Wired card/camera/storage	0.5	0.1
	A physical data- or network-connection port present on the imaging product that is designed to allow the connection of an external device, such as flash memory-card/smart-card readers and camera interfaces (including PictBridge). Interfaces.		
G. Infrared	0.2	0.2	
A data- or network-connection interface present on the imaging product that is designed to transfer data via infrared technology. Includes IrDA.			



Type	Details	Functional Adder Allowances (W)	
		Primary	Secondary
Other	Storage	-	0.2
	Internal storage drives present on the imaging product. Includes internal drives only (e.g., disk drives, DVD drives, Zip drives), and applies to each separate drive. This adder does not cover interfaces to external drives (e.g., SCSI) or internal memory.		
	Scanners with CCFL lamps	-	0.2
	The presence of a scanner that uses Cold Cathode Fluorescent Lamp (CCFL) technology. This adder is applied only once, regardless of the lamp size or the number of lamps/bulbs employed.		
	Scanners with non-CCFL lamps	-	0.5
	The presence of a scanner that uses a lamp technology other than CCFL. This adder is applied only once, regardless of the lamp size or the number of lamps/bulbs employed. This adder addresses scanners using Light-Emitting Diode (LED), Halogen, Hot-Cathode Fluorescent Tube (HCFT), Xenon, or Tubular Fluorescent (TL) technologies.		
	PC-based system (cannot print/copy/scan without use of significant PC resources)	-	-0.5
	This adder applies to imaging products that rely on an external computer for significant resources, such as memory and data processing, to perform basic functions commonly performed by imaging products independently, such as page rendering. This adder does not apply to products that simply use a computer as a source or destination for image data.		
	Cordless handset	-	0.8
	The capability of the imaging product to communicate with a cordless handset. This adder is applied only once, regardless of the number of cordless handsets the product is designed to handle. This adder does not address the power requirements of the cordless handset itself.		
	Memory	-	1.0 W per 1 GB
	The internal capacity available in the imaging product for storing data. This adder applies to all volumes of internal memory and should be scaled accordingly. For example, a unit with 2.5 GB of memory would receive an allowance of 2.5 W while a unit with 0.5 GB would receive an allowance of 0.5 W.		
	Power-supply (PS) size, based on PS output rating (OR) [Note: this adder does not apply to scanners]	-	For PSOR > 10 W, 0.05 x (PSOR - 10 W)
This adder applies to all imaging products except for scanners. The allowance is calculated from the internal or external power supply's rated DC output as specified by the power supply manufacturer. (It is not a measured quantity). For example, a unit that is rated to provide up to 3 A at 12 V has a PSOR of 36 W and would receive an allowance of $0.05 \times (36 - 10) = 0.05 \times 26 = 1.3$ W of power supply allowance. For supplies that provide more than one voltage, the sum of power from all voltages is used unless the specifications note that there is a rated limit lower than this. For example, a supply which can supply 3A of 24 V and 1.5 A of 5 V output has a total PSOR of $(3 \times 24) + (1.5 \times 5) = 79.5$ W, and an allowance of 3.475 W.			