

## Kyocera FS-4020DN

47 PPM Laser Printer



Reliability.....	Excellent
Administrative Utilities .....	Very Good
Feedback to Workstations .....	Very Good
Ease of Network Setup.....	Very Good
Print Drivers.....	Good
Applications Compatibility.....	Excellent
Print Quality .....	Good
Print Productivity .....	Fair
Ease of Use.....	Very Good
Feature Set.....	Good
Security Features.....	Not Rated
Environmental Features .....	Not Rated
Toner Yield.....	Good
Cost per Page .....	0.438¢
Value .....	Good

## BLI RECOMMENDATION

The 47-ppm Kyocera FS-4020DN gave a good overall performance in BLI's two-month lab evaluation, proving highly reliable, with a robust design that suits numerous environments. The FS-4020DN also provides a low cost per page. Offering above average ease of use, the unit also has a USB port that allows for direct printing of files from a flash drive. The unit is easy to manage using KMnet Viewer, which can assign specific alerts to different recipients, while the Kyocera Command Centre provides users with a very good level of detail about device status, paper size, approximate percentage of paper remaining and toner supplies. Output produced by the FS-4020DN at 1200 IQ was good overall, with text that was crisp and cleanly formed and above-average production of closely spaced fine lines. The Kyocera FS-4020DN is recommended by BLI for large workgroups with monthly print volumes of up to 25,000 impressions.

### Test duration:

Two months, including a 125,000-impression durability test.

### Maximum monthly duty cycle<sup>1</sup>:

Up to 250,000 impressions.

### Manufacturer's recommended monthly volume:

Up to 30,000 impressions.

### BLI's recommended monthly volume for optimum performance:

Up to 25,000 impressions.

### More information on the Kyocera FS-4020DN is available through bliQ ([www.buyerslab.com/bliQ](http://www.buyerslab.com/bliQ)).

<sup>1</sup> The maximum monthly duty cycle is the maximum volume, as specified by the vendor, that the unit is capable of producing in a month; however, it is not recommended that the unit be run at this volume on a regular basis.

## STRENGTHS

- Highly reliable
- Crisp and cleanly formed text; smooth diagonal, vertical and horizontal lines; above-average production of circles and fine lines
- KMnet Viewer provides alerts for specific events to different recipients, either on a device-by-device basis or on an entire group of devices
- Kyocera Command Centre provides users with a very good level of detailed information
- Kyocera's Prescribe PDL offers custom print programming features for specialized printing
- Pop up messages, icons and audible alerts keep users well informed about device status and error conditions
- Bypass tray handles up to 140 lb. index media – higher than the average for this group
- RAM Disk feature allocates a portion of RAM for form printing, storage and secure entry
- Above average maximum memory capacity
- USB port on control panel allows users to print files from a flash drive
- Standard security features include IPsec, SSL/TLS, SNMPv3, IPv4 and IPv6 support, and multi-language support

## WEAKNESSES

- Above average amount of banding visible throughout the halftone pattern
- Below average print efficiency in simplex mode; below average job stream efficiency from the PostScript driver

## TEST RESULTS AND OBSERVATIONS

+, – and ○ represent positive, negative and neutral attributes, respectively.



### RELIABILITY

EXCELLENT

+ The Kyocera FS-4020DN is certified highly reliable by BLI, completing a 125,500-impression durability test without any misfeeds and no service calls required.

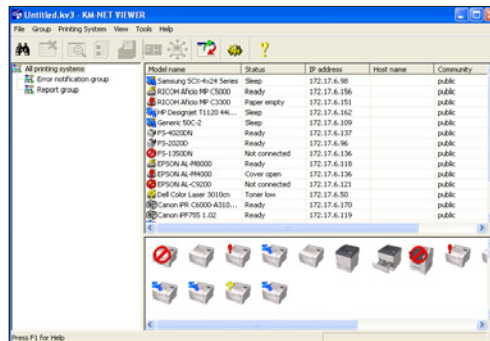
- + The amorphous silicon imaging drum is guaranteed for 300,000 impressions or three years, which far exceeds that of any competitive device.



## ADMINISTRATIVE UTILITIES

VERY GOOD

- + Kyocera's administrative utility suite includes KMnet Viewer, the Printer Status Monitor and an embedded Web page.
- + KMnet Admin is a unified solution for network device management for both Kyocera and competitive network printing devices. The utility allows the administrator to view page count and device status and view and configure alerts for groups of output devices on the network. Administrators can also access detailed information on individual devices such as amount of toner remaining, configuration settings and event logs.
- + KMnet Viewer enables device discovery and management of all printers and MFPs on the network, including Kyocera and non-Kyocera models. The utility allows administrators to sort devices by name or IP address and specify which information on monitored devices is shown.
- + An office map can be downloaded and each device can be dragged and dropped to its specific location, allowing for faster navigation for technical support.



### KMnet Viewer

- + Kyocera Command Centre, the embedded Web page, provides administrators with information about the FS-4020DN and lets them handle administrative tasks such as changing device settings, viewing device status and monitoring toner and paper supplies.
- + The embedded Web page allows administrators to send e-mail alerts to three recipients for error conditions, including paper jam, cover open and add toner/paper.
- + KMnet Viewer allows administrators to create groups of products based on reporting or error notification requirements.

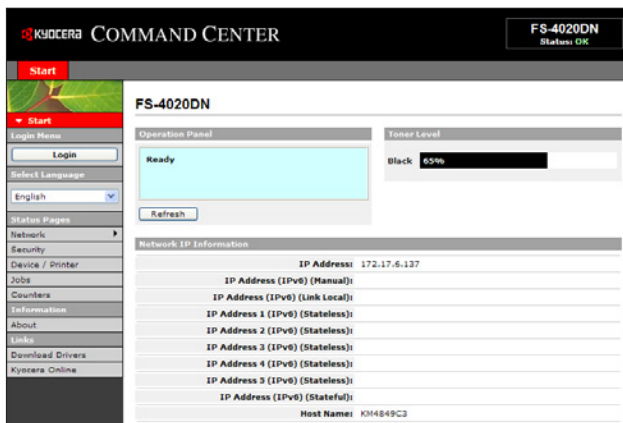
- + Within a “report group” on KMnet Viewer, an administrator can receive e-mail reports outlining a wide variety of device statistics, including printed page volumes and consumable levels, at defined time intervals.
- + The embedded Web page allows for direct printing of PDF files, without requiring the application. Also included is a software utility that enables direct printing of PDF, PostScript, PRN and Kyocera’s PRESCRIBE files without having to have the respective applications installed on the PC. With this utility multiple files can be sent at one time, with the user able to change settings such as quantity, duplexing, N-up printing and resolution.



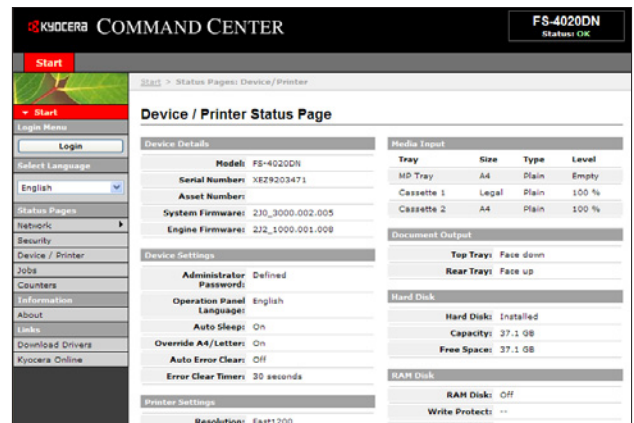
## FEEDBACK TO WORKSTATIONS

VERY GOOD

- + The Kyocera Command Centre provides users with a very good level of detail regarding the FS-4020DN, including device status, paper size, remaining paper and toner supplies.
- The pop-up status monitor provides a link to the Kyocera Command Centre as well as a colour-coded icon that resides on the Windows toolbar and an audible alert for events such as cover open, paper jam, add paper/toner and printing/print completed.
- + KMnet Viewer allows administrators to assign specific alerts or events to different recipients, either on a device-by-device basis or on an entire group of devices.
- Each alert has to be set up separately, which is more time consuming than combining alerts set up together



Kyocera Command Centre



Kyocera Command Centre-Status



## EASE OF NETWORK SETUP

VERY GOOD

- + A single person can easily lift the Kyocera FS-4020DN out of its box, which does not use excessive packaging, allowing the user to be up and running in a few minutes.
- + Installation of the drivers is highly automated. The CD-ROM, which contains all of the drivers, auto-launches upon insertion into the drive. When selected, the install software option launches a menu-driven installation routine.
- + The IP address is automatically assigned using DHCP. In addition, the port is created automatically during installation of the drivers. The installation of all three drivers required only 10 clicks of the mouse
- Administrators can't clone device settings from one device to another, and they can't simultaneously install the drivers at multiple workstations on the network. Kyocera advises that SMS packages can be prepared on request for tender customers, facilitating fleet distribution and setup of drivers across the network.

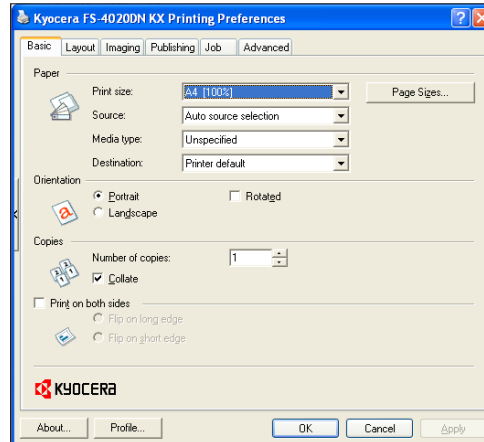


## PRINT DRIVERS

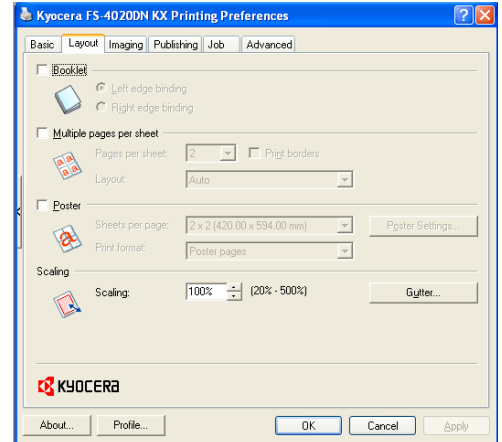
GOOD

- The Kyocera FS-4020DN ships with Kyocera's KX print driver for Windows 98, NT 4.0, XP and Vista operating systems, as well as Mac OS X. Other supported environments include Novell NPDS and Linux. The KX driver combines three drivers in one: PCL XL (PCL 6 emulation), PCL 5e and KPD (the company's PostScript emulation). The KX driver facilitates a more streamlined installation procedure and uses fewer resources on the network.
- + All the features used for typical print jobs are accessible on the main screen, eliminating the need to navigate multiple tabs.
- + The layout of the PCL and PostScript drivers is the same, which makes use easier for those who switch between them. The drivers offer a good feature set, including booklet printing, collation, N-up printing and custom watermarks.
- It should be noted that users cannot switch between emulations from within applications. Users have to close or minimize the application and then open the driver properties screen to switch from one driver to the other. Customers who require to switch regularly between the emulations are recommended by Kyocera to install the driver twice with different configuration settings – one for PCL and one for KPD for PostScript emulation.
- + The well-designed drivers are graphical, including a summary list of features and a graphical display indicating what paper trays are to be used, or to view different document types.

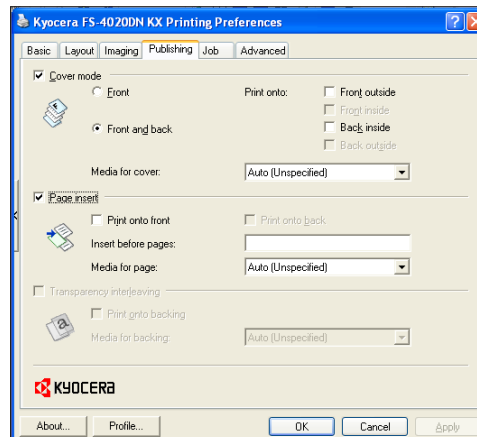
- + File size remained the same when printing multiple sets, regardless of whether “collate” was selected from the properties screen of the driver or from the print screen within an application.
- + The PCL XL and KPD L drivers feature PRESCRIBE—Kyocera’s page design and control language—that enables graphics, logos and forms, including multi-part forms, to be created independently of the system and saved and updated on the unit.



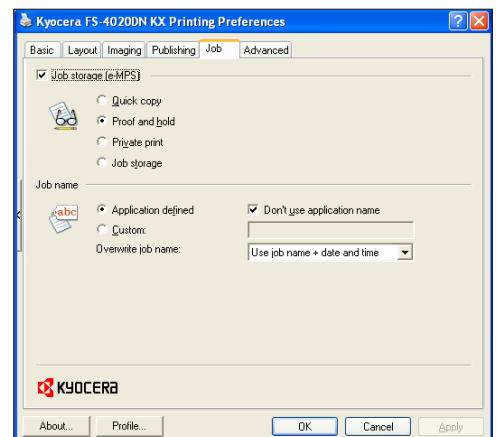
**KX Print Driver—Basic Tab**



**KX Print Driver—Layout Tab**



**KX Print Driver—Publishing Tab**



**KX Print Driver—Job Settings Tab**

## APPLICATIONS COMPATIBILITY

EXCELLENT

- + No problems were experienced with any of the test files used in the applications compatibility tests. Units are tested for compatibility on the Windows XP platform with Microsoft Word 2000, Microsoft PowerPoint 2000, Microsoft Excel 2000,

Adobe PageMaker 7.0, Adobe Photoshop 6.0 and Adobe Acrobat 6.0 using 25 application test files, which contain text, graphics, halftone images, tables, etc., enabling BLI technicians to evaluate memory usage, file processing, font rendering and greyscale capability.



## PRINT QUALITY

GOOD

- + Text was rated good, characterized by cleanly formed characters, with above-average darkness. An average amount of toner overspray was visible, but only when output was viewed under magnification. Line art produced by the FS-4020DN was also good overall; vertical and horizontal lines were smooth, and diagonal lines showed no stair-stepping; closely spaced fine lines remained distinct and line weight consistency was above average. No haloing or toner overspray was visible in a visual examination, though a minimal amount of haloing and a small amount of overspray was visible when output was viewed under magnification. Solids were also good, with smooth, dark fill areas, consistent toner coverage and average density readings.
- Halftones were visible over a fair range, from the 1 to 96 percent dot-fill levels; however, distinct transitions between some levels were not visible. However, toner coverage within dot-fill areas showed an above average amount of banding throughout the halftone pattern, which was rated only fair.



## PRINT PRODUCTIVITY

FAIR

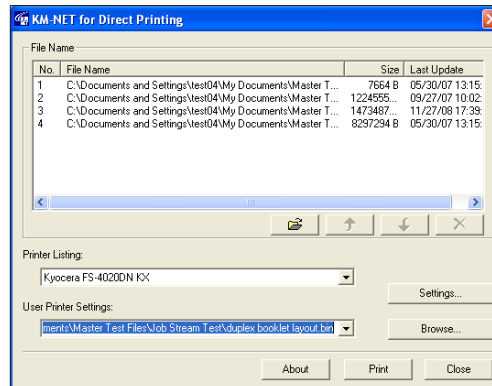
- When producing multiple sets of a 10-page document from the PCL driver, the FS-4020DN's overall simplex print efficiency (at 68.7%, or 43.0 ppm) is below average for comparable models in this speed range tested to date, but its duplex speed (32.0 ppm) and efficiency (53.9%) is competitive.
- First-print times for all five file types used in testing (Word, PowerPoint, TIFF, PDF and JPEG) are competitive to faster than average when compared to those of comparable models tested. First-page time from energy-save mode is competitive.
- The unit's productivity in BLI's job stream, which simulates that type of traffic experienced in a multi-user environment, is competitive with the average for comparable monochrome printers tested. Performance from the PostScript driver is slightly below average.



## EASE OF USE

VERY GOOD

- + BLI technicians found the control panel, which consists of four hard keys, directional navigation keys and a two-line, 32-character LCD display, very easy to use, and navigating the menu system was highly intuitive.
- Procedures for replacing toner can prove a little challenging. Though it can't be replaced while the unit is running, the cartridge is accessible from the top and slides out easily, but only after a blue lever has been located which is hidden from view behind the cartridge.
- + Changing the waste toner bottle (supplied with each box of toner) is very straightforward.
- Some paper misfeed locations involve the removal of the toner and drum unit to gain access; however, BLI's technicians noted that the surface of the drum is not exposed during removal.
- BLI technicians noted that loading paper trays is easy, with sliding paper guides and a rotating dial on the side of the drawer to set the paper size, removing the need to program media size changes in the device menu system.



**KM Net for Direct Printing**



**Paper Drawer and Rotating Dial**

- + KM Net for Direct Printing is a user friendly utility allowing for simple submission of PDF files to the device without the need to open the PDF, with users able to choose one or multiple PDF files and submit them to the direct print workflow, using either a drag and drop, right click or browse as the file submission selection process. Users can also set up print profiles which further simplifies the submission process. This is ideal for users operating the device as a short run print on demand resource.



## FEATURE SET

GOOD



**Kyocera FS-4020DN  
Control Panel and  
USB Printing**

- The unit is equipped with 128 MB of standard memory, which is competitive in its class.
- + Maximum memory of 1,152 MB is much higher than that offered by competitive units.
- Automatic duplexing is standard.
- + A RAM Disk feature can be enabled on the device to allocate a portion of RAM for form printing, job storage and secure printing.
- + Kyocera's Prescribe PDL offers custom print programming features for specialized printing.
- The FS-4020DN offers a competitive standard paper capacity consisting of one 500-sheet drawer plus a 100-sheet multi-purpose tray.
- Maximum paper capacity is competitive. Users can expand paper capacity up to 2,600 sheets through the addition of the optional 2,000-sheet bulk paper feeder. Alternatively, users can add up to three optional 500-sheet drawers to take the number of paper sources up to a maximum of five with a capacity of 2,100 sheets.
- + Although there is no finisher or mailbox option available, features that are available from several rivals, a 2,000 sheet output stacker is available, taking output capacity well beyond most rival units.
- + The 100-sheet bypass tray handles up to 140 lb. index media, which is heavier media than can be accommodated by its peers, however, many competitive models can accommodate heavier media through the drawers.
- + A 40-GB hard drive is available as an option for added storage and spooling capacity.
- + A USB port on the control panel allows users to print files from a flash drive.
- + Standard security features include IPsec, SSL/TLS, SNMPv3, IPv4 and IPv6 support, and multi-language support.



## SECURITY FEATURES

NOT RATED

Administrator password length (characters)	24
Authentication	Yes
Network user authentication	Yes
Windows	Yes

Novell NetWare NDPS	Yes
Kerberos protocol support	Yes
Authentication via department or user ID codes that are registered on the machine	Yes
Number of codes	100
Restrict usage of colour	Not applicable
Restrict usage of other features	Yes
802.1x wireless authentication	Yes
Authenticated printing	Yes
Common Criteria Certification	No
Control panel lock/disablement	Yes
Digital user signature	Yes (for sending e-mail alerts)
Encrypted secure print	Yes (SSL + Private Print)
Hard drive encryption	No
Hard drive lock	INA
Hard drive overwrite	No
Max number of overwrites after every job	N/A
Overwrite method	N/A
IP address filtering	Yes (up to 10 addresses)
IPsec	Yes
Job logs (e.g., activity monitoring, compliance auditing)	Yes
MAC address filtering	Yes
Password-protected mailboxes	No
Password-protected Web page	Yes
Port disablement	Yes
Protocol disablement	Yes
Removable hard drive	No
Secure print	Std
Secure Sockets Layer (SSL)	Yes
SNMPv3 support	Yes
Third-party security features	Authorization, Accounting, Secure Pull Printing
Transport layer security	Yes
Unauthorized copy prevention (secure watermark)	Yes
USB block	Yes
Additional security features	RAM Disk feature

+ Kyocera's RAM Disk option allows a portion of the device's RAM to be treated like a hard disk to facilitate secure job storage without needing to purchase an additional hard drive; as RAM is volatile memory it can only retain data while connected to a power supply or a device.



## ENVIRONMENTAL FEATURES

NOT RATED

Specified capable of running 30% post-consumer recycled paper	Yes
Specified capable of running 50% post-consumer recycled paper	Yes
Specified capable of running 100% post-consumer recycled paper	Yes
Instant/Quick Fusing	Yes
Duplexing	Yes
Toner-save mode	Yes
Energy-save mode/modes	Yes
Eco-Label Certifications	
Germany Blue Angel	INA
ENERGY STAR	Yes
IT Eco Declaration	INA
WEEE Directive compliant	INA
RoHS compliant	INA
Recycled materials/parts used in the product	INA
Product designed for recycling (easily disassembled, no binding agents)	INA
Hardware remanufacturing program for this product	INA
Toner cartridge recycling program for this product	INA
Pre-paid label for return of toner cartridges/bottles for this unit	INA
Toner recycling system	INA
Ability to program features such as duplexing and auto shut-off, over entire fleet	INA
Polyvinyl Chloride used in any aspect of the product or its packaging	INA
Recyclable packaging materials for the product	INA
Recyclable packaging materials for its consumables	INA
Packaging materials used: Corrugated Paper; Expanded Polystyrene Foam (EPS); Expanded Polypropylene Foam (EPP); LDPE (bag)	
Tested energy consumption levels of the device (in watts):	
Power	1029
Standby	9.9 (EcoFuser On)
During Printing	667
Emissions output from this device for the following substances (in mg/h) (Per Blue Angel RAL UZ 122 test procedures):	
Ozone	Unmeasurably low
Styrene	0.062
Benzene	0.014
TVOC	4.4/0.008
Dust	1.4



## TONER YIELD

GOOD

- The tested toner yield of the FS-4020DN's toner cartridge is competitive with the average for monochrome laser/LED printers in this speed range tested to date.
- Tested impressions per gram are below average compared to models in this class tested to date
- + In BLI's testing, the three high-yield cartridges tested exceeded their rated yield by 4,066 impressions.



## VALUE

GOOD

- Based on its suggested retail price, the unit is priced about 18 percent higher than the average for similarly equipped legal-size laser/LED devices in this speed range.
- + The FS-4020DN's supplies cost per page is the lowest compared to legal-size laser/LED devices in this speed range tested to date; in fact, it's about 50 percent lower than the average, which translates to a substantial cost savings over competitive devices throughout its lifetime; however, users should be aware that this comparison is based on supplies only and doesn't take into account the price of a service contract, which could increase the cost per page.

## SUPPORTING TEST DATA

### Test Environment

Testing was conducted under ambient conditions of 22°C (+/-2.7°C) and 45% RH (+/-10%); monitored daily by Dickson Seven-Day Temperature/Humidity Chart Recorder, in Buyers Lab's test facility at Unit 1 Station Industrial Estate, Wokingham, Berkshire RG41 2YQ.

### Test Equipment

BLI's dedicated test network, consisting of Windows NT 4.0, 2000 and Microsoft Exchange servers, Windows XP workstations, 10BaseT/100BaseTX network switches and CAT5 cabling.

### Test Duration

Products are tested for two months, three weeks of which consists of a durability test during which the product is run at half of its manufacturer-rated maximum monthly volume. BLI's daily test usage is designed to replicate real-world use over an eight-hour workday, and as such includes a mix of various-size documents, simplex and duplex modes, and a mix of short, moderate and long run lengths, and on/off cycles, throughout the day.

### Tested Configuration

Base unit, plus one 500-sheet paper drawer, 1-GB memory upgrade and optional 40-GB hard drive.

### Test Procedures

The test methods and procedures employed by BLI in its lab testing include BLI's proprietary procedures and industry-standard test procedures, including a BLI-developed variation of ASTM's 1318-90 Test Method for Determination of Productivity using Electrostatic Copy Machines. In addition to a number of proprietary test documents, BLI uses an industry-standard KATUN test original for evaluating black image quality and test suites from Quality Logic to evaluate applications compatibility. In addition to a visual observation, gamut size and stability are tested using a 1,400 colour test target, which is read using an EFI ES-1000 colour spectrophotometer and assessed using Chromix ColorThink Pro v3.0 software. In addition, density of black and colour output is measured using an X-Rite 508 Densitometer.

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## RELIABILITY

PMs/Malfunctions	Service Required	Meter Count (Impressions)	Impressions Between Service
Meter count (beginning of test)		0	
End of test period		125,500	
Total misfeeds/misfeed rate	0/Not applicable		
Total Service Calls	0		



## ADMINISTRATIVE UTILITIES

VERY GOOD

### Included software:

KMnet Viewer enables device discovery and management for all printers and MFPs on the network, including Kyocera and non-Kyocera models. The utility allows administrators to sort devices by name or IP address and specify which information on monitored devices is shown. Devices can also be placed in groups for administrators to obtain reports and statistics for an entire workplace.

### Embedded Web page:

Kyocera Command Centre, the embedded Web page, provides administrators with information about the FS-4020DN and lets them handle administrative tasks such as changing device settings, viewing device status and monitoring toner and paper supplies.

Additionally, the embedded Web page allows administrators to send e-mail alerts to three recipients for error conditions, including paper jam, cover open and add toner/paper.

### Consumables monitoring:

Yes, via the embedded Web page or KM-NET Viewer. The user or administrator can view remaining life of consumables, the size and type of paper in each drawer and status of paper supply, indicated by "Empty" or "Low."



## PRINT DRIVERS

### Kyocera FS-4020DN Print Driver Features

Features	PCL XL	PostScript
Auto Feature/Device Detection	Yes	Yes
Booklet Printing	Yes (no folding, no stapling)	Yes (no folding, no stapling)
Collate Sets	Yes	Yes
Max Paper Sources per Job	5	5
Mirror Image	No	Yes
Negative Image	No	Yes
N-up Printing	2 to 25	2 to 25
Overlays	No	No
Paper Gauge	No	No
Print and Hold	Yes	Yes
Proof Print	Yes	Yes
Quantity Selection	Up to 999	Up to 999
Reduction/Enlargement	20% to 500%	20% to 500%
Resolution Modes (dpi)	300 x 300; 600 x 600; 1200 x 1200	300 x 300; 600 x 600; 1200 x 1200
Save Settings	Yes	Yes
Secure Print	Yes	Yes
Watermarks/Custom Watermarks	Yes/Yes	Yes/Yes

Send once/print many:

File size remained the same when printing multiple sets, regardless of whether “collate” was selected from the properties screen of the driver or from the print screen within an application. Output was properly collated.



## PRINT QUALITY

### Print Quality

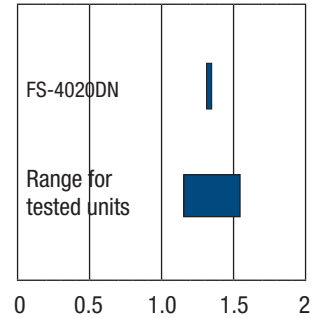
Text	Good
Line Art	Good
Halftone Pattern	Fair
Halftone Range	Fair
Solids	Good

## Black Density

Print density for the Kyocera FS-4020DN	Density for units in this class tested to date
1.32 to 1.35	1.15 to 1.55

Measurements are based on four readings corresponding to four different solid black locations on the output. The higher the density reading, the darker the image.

## Print Density



## Halftone Range

	Visible halftone range
Kyocera FS-4020DN	1% to 96%
Typical range for competitive units	3% to 93%

The printed halftone test target consists of blocks of increasing dot-fill levels (1% to 100% in 1% increments).



## PRINT PRODUCTIVITY

### First-Print Time from Energy-Save Mode (Seconds)

Kyocera FS-4020DN	Average for units in this class tested to date
26.34	25.47

Device sits idle overnight; a single-page black Word document is sent to the device; first-print time indicates the time it took to RIP, image and deliver the first page of the test document to the output tray.

### Tested First-Print Times (Seconds)

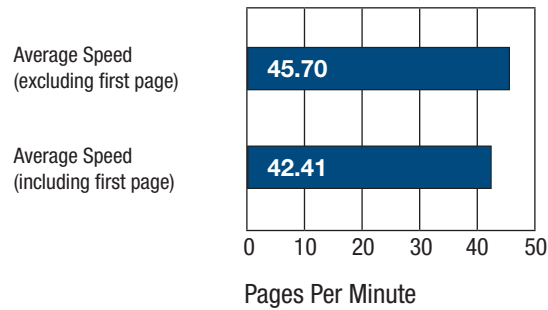
Windows XP	Word	PowerPoint	Photoshop	Acrobat	Photoshop
File type	Black Text	Color Graphic/Text	Color Graphic	Black Graphic/Text	Color Graphic
File extension	DOC	PPT	TIF	PDF	JPG
Pre-Raster File Size	114 KB	99 KB	20 MB	426 KB	248 KB
Post-Raster File Size	34.5KB	125 KB	591 KB	565 KB	741 KB
First-Page Time	8.38	8.84	9.06	8.22	8.69

The Kyocera FS-4020DN's print speeds were tested at the default 600 dpi using the PCL XL driver.

First-print time indicates the time it took to RIP an image and deliver the first page of the test document set to the output tray.

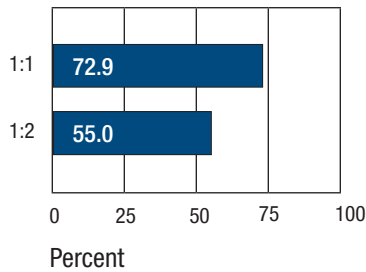
Kyocera FS-4020DN's rated speed:  
47 ppm

## BLI's Tested Print Speeds



Print speed is tested using BLI's Monochrome Test Original (with 6% page coverage). The test page is printed in a quantity equal to double the vendor's rated print speed for the device in each mode tested (e.g., if the vendor's rated print speed is 20 ppm, 40 pages are printed). The FS-4020DN's print speeds were tested at the default 600 dpi using the PCL XL driver.

## Overall Efficiency



BLI obtains the overall efficiency for each print mode by averaging the efficiency ratings (derived by dividing the tested speed of the device by the rated speed and then multiplying by 100) for each run length (1, 5, 10 and 20 sets in print mode).

## Black Print Efficiency for Multiple Sets

Sets	Time	PPM	Efficiency	Overall Efficiency
<b>PRINT 1:1</b>				
1	0:35.82	16.8	37.2%	37.2%
5	1:28.41	33.9	75.4%	56.3%
10	2:34.53	38.8	86.3%	66.3%
20	4:47.53	41.7	92.7%	72.9%
<b>PRINT 1:2</b>				
1	0:43.22	13.9	30.8%	30.8%
5	1:56.69	25.7	57.1%	43.9%
10	3:28.56	28.8	63.9%	50.6%
20	6:30.72	30.7	68.3%	55.0%

Efficiency is tested using a 10-page document in black mode. In print mode, the document is printed using the PCL XL driver at the default 600 dpi.

## Job Stream Evaluation

### Job Stream in Black Mode:

The unit completed the job stream using the PCL 6 driver in 37.22 seconds, running at 30.6 ppm, which translates to an efficiency rate of 68.1%.

The unit completed the job stream using the PostScript 3 (KDPL) driver in 56.12 seconds, running at 20.3 ppm, which translates to an efficiency rate of 45.1%

BLI's job stream includes Word documents, Outlook e-mail messages, Excel spreadsheets, PowerPoint, HTML and Acrobat PDF files, totaling 19 pages. This test simulates the type of traffic a typical device might experience in a real-world, multi-user environment. All of the files are sent to the printer as a group, at which time the stopwatch begins; timing ends when the last page of the last file exits the device. Job stream efficiency is determined by the percentage of the rated speed at which the unit operates when producing real-world jobs. The closer the rate is to 100%, or if it exceeds 100%, the more efficient the unit.

### Problems encountered:

None.



## TONER YIELD

### Tested Toner Yield/Supplies Cost Per Page

Manufacturer's Rated Toner Yield (Impressions)	Tested Toner Yield (Impressions)	Net Weight (Grams)	Impressions per Gram	Toner Cost per Page <sup>1</sup>	Supplies Cost per Page <sup>2</sup>
20,000	24,066	620.7	30.09	0.349¢	0.438¢

<sup>1</sup> Toner cost per page is based on Kyocera's Web pricing and BLI's tested toner yields (based on an average of two print cartridges) from the PCL XL driver using the ISO 19752 toner yield test original.

<sup>2</sup> The supplies cost per page is based on Kyocera's Web pricing, BLI's tested toner yields for the high-yield return print cartridges, as well as Kyocera's rated yield for the maintenance kit.

# CERTIFICATE OF RELIABILITY

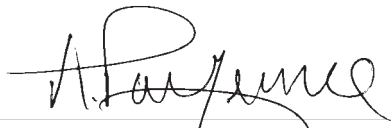
Awarded to

**KYOCERA MITA AMERICA, INC.**

for the performance of the

Kyocera FS-4020DN

in BLI's in-house durability test.



ANTHONY F. POLIFRONE  
MANAGING DIRECTOR



JUNE 2009

DATE

This is to certify that when subjected to a 125,000-impression Buyers Lab durability test in a networked environment, the Kyocera FS-4020DN proved to be a highly reliable product.

**BUYERS LABORATORY INC.**

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