

DECEMBER 2019

## Canon PIXMA GM2050 versus Device A Reliability Test

### Test Objective

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Keypoint Intelligence - Buyers Lab was commissioned by Canon Europe Ltd. to conduct a 30,000-impression reliability test on the Canon PIXMA GM2050 and Device A. Testing took place over a period of 20 days, and involved printing the ISO 24734 test suite and a batch of proprietary Buyers Lab image quality files. Image quality was checked every 5,000 impressions to assess the consistency of output. The printers were operated in default mode, with any misfeeds, multi-sheet feeding, misalignment skewing, and printer malfunctions, or failures recorded. All testing was conducted at Buyers Lab's European test facility. The Canon PIXMA G2050 is also sold as the Canon PIXMA G2040, so this report is also applicable to that device.

### Executive Summary

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During reliability testing, both the Canon PIXMA GM2050 and Device A printed 30,000 impressions with no misfeeds, jams, or cartridge failures. However, Device A required 19 printhead cleanings compared to the Canon PIXMA GM2050's six. As printhead cleanings are both ink- and time-consuming, it's clearly better to have fewer than more.

Buyers Lab technicians also evaluated the text, fine lines, and halftones to see if image quality remained consistent throughout testing. With both devices, image quality output didn't degrade.

On the strength of Buyers Lab's test, although both devices are reliable, the Canon PIXMA GM2050 requires far fewer printhead cleanings over 30,000 pages and will therefore have higher uptime than Device A.

## Reliability

Printer reliability should be a key concern for buyers because a reliable device minimizes downtime, which results in improved productivity. Buyers Lab conducted reliability testing on the Canon PIXMA GM2050 and Device A, with each device run for 30,000 impressions over a 20-day period and workload split equally between simplex and duplex jobs.

- Neither device suffered a calamitous failure or had any misfeeds or jams, and both devices reached the end of the test.
- The only operator intervention required for either device, other than recharging the ink tanks, was the cleaning of printheads. The Canon PIXMA GM2050 required far fewer printhead cleans than Device A, with six cleans as opposed to 19, respectively.
- This means that the intervention rate for the Canon GM2050 was 1/5,000 prints compared to Device A's 1/1,579 prints.

## Summary

	Canon PIXMA GM2050	Device A
Impressions	30,000	30,000
Failed ink cartridges	0	0
Operator Interventions (error code clearance; paper sensor cleaning; printhead clean)	6	19
Intervention Rate (per impressions)	1/5,000	1/1,579
Total Misfeeds/Paper Jams	0	0
Misfeed Rate	N/A	N/A

## Image Quality

To assess the print image quality consistency of the Canon PIXMA GM2050 and Device A, Buyers Lab's proprietary image quality test targets were printed on each device, with samples taken at 5,000-impression intervals. Image quality was assessed in several areas, such as text and fine lines, as well as solid density and colour gamut volume. The sample pages were compared and graded on a three-point scale where 3 is excellent, 2 is good, and 1 is poor. From a user perspective, output with a 3 rating would be nearly flawless, meeting the higher standard required for distribution to external clients; a 2 rating would be average, and while showing some slight defects or flaws would be suitable for internal use; lastly, a 1 rating would have major defects and could be illegible in places rendering it unusable. The aim of the test in this context is not to provide in-depth comparative analysis on the image quality of each device, but to ascertain the consistency of the device's output over the duration of the test, and to note any reduction in quality from the start of the test.

## Examples of Image Quality Ratings



3 Rating: Smooth tones, vibrant colours, with fine detailing and good contrast

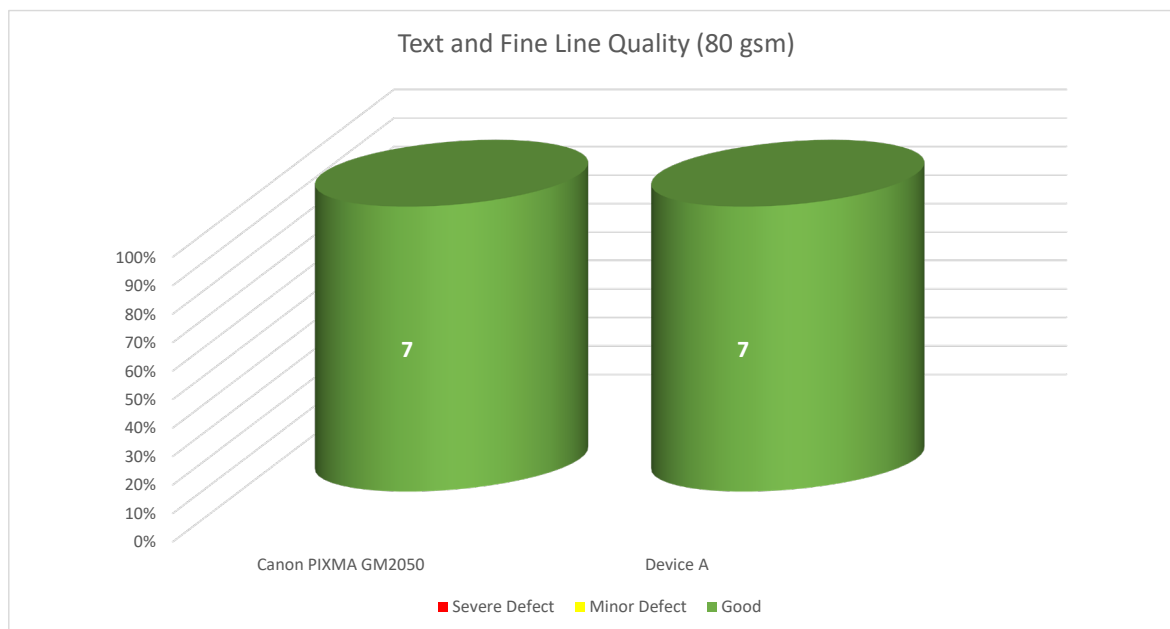


2 Rating: Some localized defects, but overall quality is okay

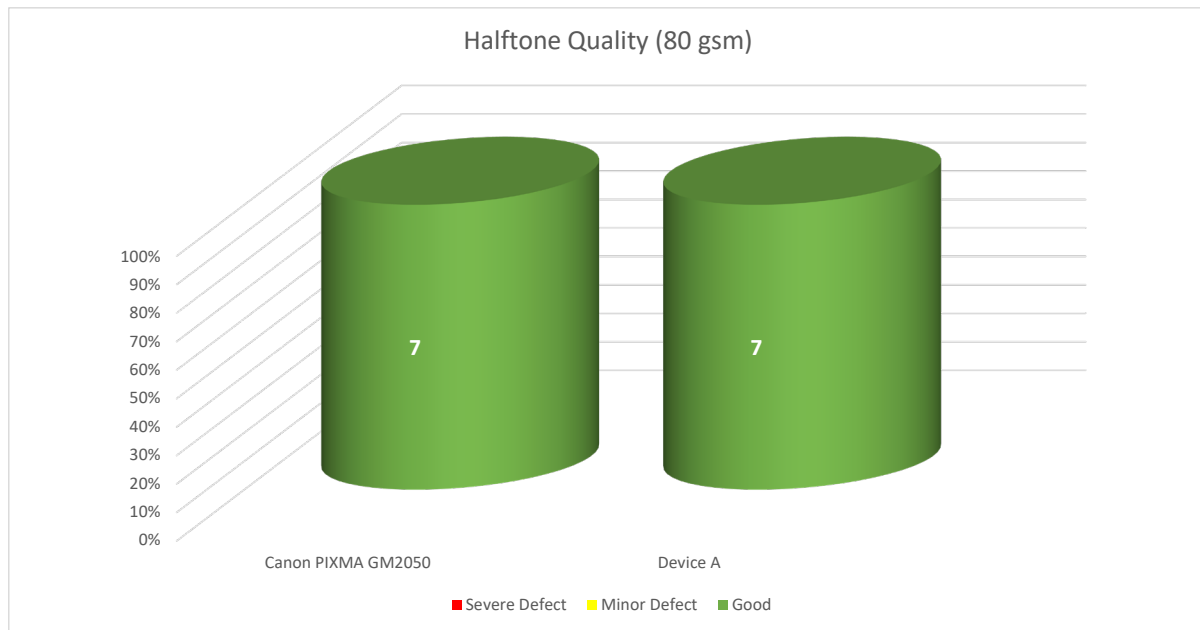


1 Rating: The whole page suffers from poor quality, rendering it unusable

In Buyers Lab's testing, both devices produced image quality samples that were consistent over the course of the test, with neither device producing image quality samples that were unexpectedly sub-par.



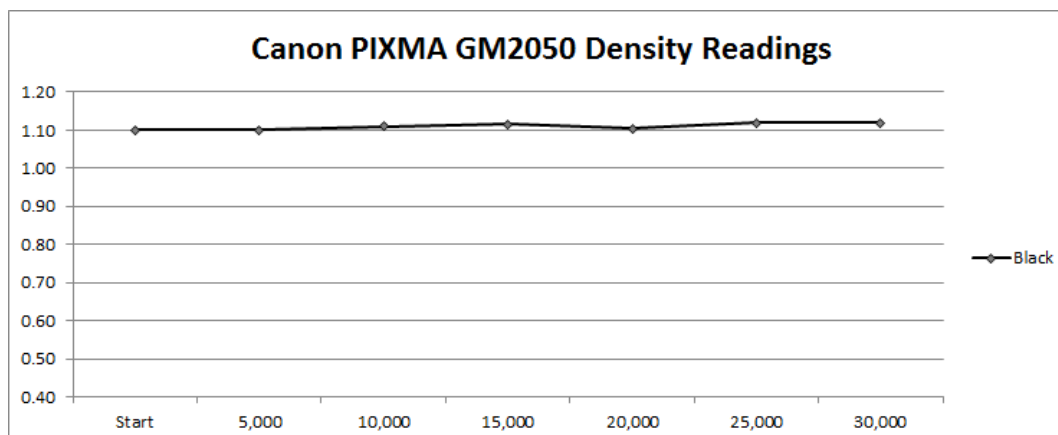
Grades for text and fine lines are indicated by a colour, such as green, which means there were no defects; yellow, which represents a minor defect; and red, which represents a severe defect. The number on the cylinders relates to the number of image quality samples produced.

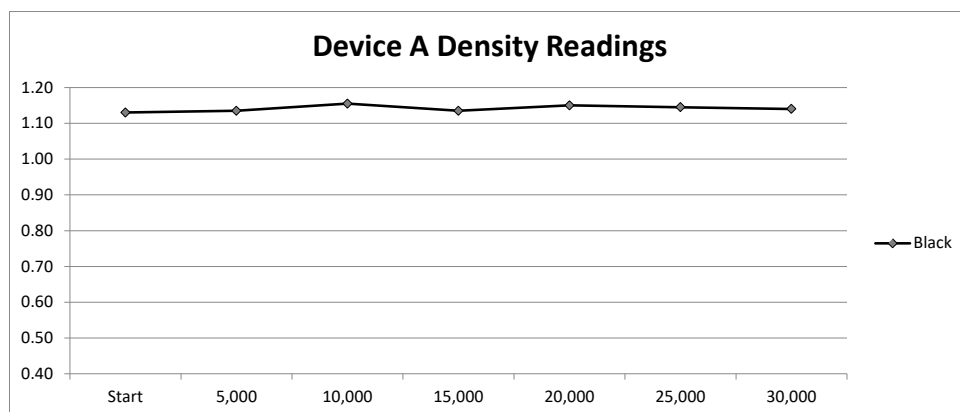


Grades for halftones are indicated by a colour, such as green, which means there were no defects; yellow, which represents a minor defect; and red, which represents a severe defect. The number on the cylinders relates to the number of image quality samples produced.

## Density

A higher print density reading for black means that output will be darker and/or richer. The Canon GM2050 and Device A both produced consistent density readings throughout testing, with only a variation of 0.02 between each device's lowest reading and its highest reading.





## Supporting Test Data

### Detailed Reliability Log

Canon PIXMA GM2050 Event Log			
Date	Task	Action	Meter count
13/07/2019	Head clean required	Conduct head clean	3,605
20/07/2019	Head clean required	Conduct head clean	7,063
01/08/2019	Head clean required	Conduct head clean	11,278
09/08/2019	Head clean required	Conduct head clean	19,532
17/08/2019	Head clean required	Conduct head clean	20,938
25/08/2019	Head clean required	Conduct head clean	25,913

Device A Event Log			
Date	Task	Solution	Meter count
12/06/2019	Head clean required	Conduct head clean	1,185
12/06/2019	Head clean required	Conduct head clean	1,323
12/06/2019	Head clean required	Conduct head clean	1,364
13/06/2019	Head clean required	Conduct head clean	2,662
14/06/2019	Head clean required	Conduct head clean	4,298
16/06/2019	Head clean required	Conduct head clean	6,301
18/06/2019	Head clean required	Conduct head clean	7,179
18/06/2019	Head clean required	Conduct head clean	7,237
20/06/2019	Head clean required	Conduct head clean	8,706
24/06/2019	Head clean required	Conduct head clean	11,847
26/06/2019	Head clean required	Conduct head clean	13,651
28/06/2019	Head clean required	Conduct head clean	15,741
01/07/2019	Head clean required	Conduct head clean	18,360
04/07/2019	Head clean required	Conduct head clean	20,458

04/07/2019	Head clean required	Conduct head clean	20,940
08/07/2019	Head clean required	Conduct head clean	22,341
09/07/2019	Head clean required	Conduct head clean	23,479
16/09/2019	Head clean required	Conduct head clean	26,205
17/09/2019	Head clean required	Conduct head clean	26,856

## Test Methodology

Buyers Lab conducted a 30,000-impression reliability test on two devices: Canon PIXMA GM2050 and Device A. 50% of print jobs were simplex and 50% were duplex. The devices were operated in their default mode. All issues, including paper misfeeds/jams, multi-sheet feeding, skewing, and printer malfunctions were recorded. Image quality samples, along with optical density and gamut readings, were taken at 5,000-impression intervals and were used to assess the devices' consistency over the test period. Pukka Paper Everyday A4 80gsm and Canon Red Label A4 80gsm were used during testing.

## Test Environment/Conditions

All testing conducted in a controlled environment at Buyers Lab's test facility located at Unit 11, The Business Centre, Molly Millars Lane, Wokingham, RG41 2QZ per the following conditions:

- Temperature was maintained at 22°C, +/-2.7°C, with daily conditions monitored and logged 24/7 by a Seven-Day Temperature/Humidity Chart Recorder.
- Relative humidity was maintained within 45% +/- 10%, with daily conditions monitored and logged 24/7 by a Seven-Day Temperature/Humidity Chart Recorder.
- Materials conditioning: Printers, paper and cartridges were acclimatized to the above conditions for a minimum of 24 hours prior to testing. Prior to acclimatization, packaging and shipping materials were opened in a manner that prevented light damage from occurring to the print cartridge during acclimatization. Paper was acclimatized in the ream wrapper.

## About Keypoint Intelligence - Buyers Lab

Keypoint Intelligence is a one-stop shop for the digital imaging industry. With our unparalleled services and unmatched depth of knowledge, we cut through the noise of data to offer clients the independent insights and responsive tools they need.

For over 50 years, Buyers Lab has been the global document imaging industry's resource for unbiased and reliable research, test data, and competitive information services. In addition to publishing the industry's most comprehensive and accurate test reports, each representing months of hands-on testing in our U.S. and UK laboratories, we have been the leading organization for extensive specifications/pricing databases on MFPs, printers, scanners, and software. Buyers Lab also provides consulting services and a range of private testing services that include document imaging device beta and pre-launch testing, performance certification testing, consumables testing (toner, ink, fusers, and photoconductors), solutions evaluations, and media runnability testing.

For more information, please call David Sweetnam at +44 (0) 118 977 2000 or email him at david.sweetnam@keypointintelligence.com