

**SUPERIOR COURT
(Class actions)**

**CANADA
PROVINCE OF QUÉBEC
DISTRICT OF MONTREAL**

N°: 500-06-000722-146

RENÉ CHARBONNEAU

Representative Plaintiff

v.

APPLE CANADA INC.

-and-

APPLE INC.

Defendants

**WRITTEN DEFENCE OF DEFENDANTS
APPLE CANADA INC. AND APPLE INC.**

**IN RESPONSE TO REPRESENTATIVE PLAINTIFF'S ORIGINATING CLASS
ACTION APPLICATION, DEFENDANTS, APPLE CANADA INC. AND APPLE
INC., STATE AS FOLLOWS:**

1. With respect to the allegations contained in paragraphs 1, 2 and 4 of the Application, the Defendants refer to the Revised Rectified Authorization Judgment dated October 5, 2018 (the "**Authorization Judgment**"), and deny anything that is not in strict conformity therewith and refer to what is pleaded hereinafter.

2. They admit the allegations contained in paragraphs 3, 14 to 16, 18, 22, 45, 48, 94, 95, 98 and 133 of the Originating Class Action Application dated May 14, 2018 (the "**Application**").
3. They admit the allegations at paragraphs 17, 46 and 47, but have no knowledge of the images produced in support of these allegations.
4. They deny the allegations contained in paragraphs 5 to 13, 19 to 21, 23 to 44, 49 to 51, 52 to 78, 81 to 87, 89 to 91, 93, 96 to 97, 99 to 100, 103 to 105, 107 to 108, 110 to 111, 115 to 117, 120 to 121, 123 to 126, 128, 132, 134 to 135, 137 to 152, and 153 to 155 of the Application.
5. With respect to paragraph 88, the Defendants deny that "the complaints [...] have continued" but have no knowledge as to the remainder of the allegations in that paragraph.
6. They have no knowledge of the allegations contained in paragraph 79-80, 101 to 102, 106, 109, 112 to 114, 118 to 119, 122, 127 and 129 of the Application.
7. With respect to paragraph 92, they admit that they did not seek permission or directives from the Court as to the Repair Extension Program, but deny that they had any obligation to do so.
8. With respect to paragraph 130, they acknowledge that Plaintiff received a replacement laptop, but deny the remainder of the allegation.
9. With respect to paragraph 131, they acknowledge Plaintiff's admission that his MacBook Pro laptop was replaced; they admit that, at the time of the replacement, he had not been reimbursed for the cost of his initial logic board replacement, but state that Plaintiff ultimately was reimbursed and denies that he is entitled to claim such reimbursement.

10. With respect to paragraph 136, they have no knowledge of Plaintiff's alleged communications, but acknowledge Plaintiff's admission that he received his refund in the amount of \$622.25.

AND IN RE-ESTABLISHING THE FACTS, DEFENDANTS, APPLE CANADA INC. AND APPLE INC., ADD THE FOLLOWING:

I. INTRODUCTION

11. Plaintiff was authorized by the Authorization Judgment to institute a class action against the Defendants Apple Canada Inc. and Apple Inc., on behalf of the following class:
 1. *All persons in Quebec, who purchased and/or own a 2011 MacBook Pro Laptop with a 15 inch or 17 inch screen;*
 2. *All persons, who purchased in Quebec a 2011 MacBook Pro Laptop with a 15 inch or 17 inch screen;*
12. The Defendant, Apple Inc., is a company incorporated in the United States under the laws of the State of California, with its headquarters in Cupertino, California.
13. Apple Inc. is the designer of Apple's 2011 MacBook Pro Laptops ("**MBPs**"), including those with 15 inch and 17 inch screens.
14. However, some components, including the two graphics processing units ("**GPUs**") contained in the 2011 MBPs were manufactured by third parties, as further detailed below.
15. The Defendant, Apple Canada Inc., is a company incorporated in Ontario with its headquarters in Toronto, Ontario.

16. Apple Canada Inc. is a distributor and retailer of consumer electronics and Internet services in Canada, including Quebec. (The Defendants are hereafter referred to collectively as “**Apple**”.)
17. Apple sold the 2011 MBPs throughout the province of Quebec in its Apple stores located in Quebec, as well as via its online store at apple.com/ca/.

II. **MANUFACTURING AND TESTING OF THE 2011 MBPS AND GRAPHICS CHIPS**

a. **Manufacturing Phase**

18. While Apple designed the 2011 MBPs, certain components of these laptops, such as the GPUs, were made by third parties.
19. The 2011 MBPs contained two GPUs.
20. One GPU, the Intel HD Graphics chip, was manufactured by Intel Corporation and is intended for less graphics-intensive tasks.
21. The other GPU, the AMD Radeon HD Graphics chip, was manufactured by Advanced Micro Devices Inc. (“**AMD**”) and was intended to enhance the 2011 MBPs’ graphics capabilities.
22. The AMD GPU is at the heart of this case.
23. Plaintiff wrongly asserts at paragraph 28 of his Application that all 2011 MBPs suffer from a “defect” due to the use of lead-free solder to connect the AMD GPUs to the main circuit board (“**Logic Board**”) of the 2011 MBPs.
24. Within the AMD graphics chip, the silicon chip itself, called the “die”, is soldered into a chip package called the “substrate”. The die and the substrate are soldered together using high-lead solder bumps and a material called “underfill”. This manufacturing process was designed and performed by AMD.

25. The whole AMD graphics chip was then soldered to the Logic Board by Apple, using lead-free solder balls.
26. The fact that Apple used lead-free solder to connect the AMD GPUs to the Logic Board is irrelevant to this case. Contrary to Plaintiff's assertions, lead-free solder is not known to be less reliable than lead solder.
27. With regard to the soldering performed by AMD within the chip itself, AMD used an underfill material with a relatively low glass transition temperature ("Tg"). For any material, the Tg refers to the temperature when a solid material transitions into a viscous material, before crossing over to a full liquid. Hence, low-Tg underfill is essentially a glass-filled epoxy with a glass transition temperature below the maximum use temperature of the device.
28. This means that the underfill material used to connect the die to the substrate of the GPU would transition from solid to liquid at lower temperatures, and within the operating temperatures of the laptop. During this phase change, the underfill material would expand and apply tensile stress to the solder bumps.
29. Over a long period of time and after a considerable number of temperature cycles, this in turn could cause the solder bumps to crack in certain specific circumstances. Indeed, it is only after repeated cycles of crossing over that the Tg underfill would fatigue the bumps and eventually introduce cracks.
30. Apple was unaware of the selection of underfill material by AMD when Apple began selling the 2011 MBPs.
31. In any event, there was no standard in 2011, or even now, requiring high-Tg (or higher-Tg) underfill. The technology involved in manufacturing these types of graphics chips is highly complex and constantly evolving.

b. Testing Phase

a. Pre-Release Testing

32. Prior to releasing the 2011 MBPs, Apple did its own testing, as it does with all products.
33. Apple tested not only the 2011 MBPs themselves, but also did its own reliability testing specifically on the AMD graphics chips, in addition to the testing performed by AMD itself.
34. As part of the reliability testing of the AMD graphics chips, Apple increased temperatures and humidity to simulate extreme conditions. Apple environmentally controlled the temperature and ran the chip at full load, and cycled it under ambient temperature, as well as low and high temperatures.
35. The AMD graphics chips, containing the high-lead solder bumps with the low-Tg underfill, not only passed AMD's reliability testing but also passed all of Apple's reliability testing.

b. Continuous Monitoring

36. As a general practice, Apple performs continuous monitoring of its products in an effort to identify potential problems as consumers are confronted with issues.
37. Through this continuous monitoring of the 2011 MBPs, Apple noted reports of hang and freeze issues with the laptops around 2012 and therefore intensified its investigation and analysis of the issue.
38. Ongoing Failure Analysis ("FA") did not initially identify any hardware issues. Indeed, failures were intermittent and the FA was inconclusive.
39. In 2013, AMD's FA pointed to failures in the graphics chip memory called the video random access memory ("VRAM"), which was thought to have been the cause of occasional graphical issues.

40. However, around mid-2014, Apple requested additional FA which eventually revealed that under certain circumstances, the solder bumps between the AMD GPU's die and substrate could eventually be caused to crack.
41. According to the information available to Apple following its in-depth investigations, these solder bump cracks in the AMD GPU, likely linked to the low-Tg underfill, could only occur in certain circumstances. Indeed, these solder bump cracks would only occur over a long period of time and after the graphics chips went through a considerable number of temperature cycles.
42. On September 17, 2014, internal approval was granted to roll out a Repair Extension Program to address this issue.
43. Thus, Apple diagnosed the likely cause of some users' graphical issues and offered a solution. The 2011 MBPs are complex and high-end machines; the continuous monitoring process described above takes time and is very challenging.

III. APPLE'S REPAIR EXTENSION PROGRAM ("REP")

a. Apple Prepared the REP Before the Present Class Action was Instituted

44. As previously mentioned, it was as a result of its continuous monitoring and additional analysis that Apple discovered, around mid-2014, that the use of low-Tg underfill between the AMD GPU's die and substrate could eventually cause the solder bumps to crack under certain circumstances, over a long period of time and after the graphics chips went through a considerable number of temperature cycles.
45. On September 17, 2014, internal approval was granted for Apple to roll out an REP to provide support to its customers. The preparation of this REP began before the present class action was instituted.

46. On February 19, 2015, Apple publicly announced the REP, which came into effect in the US and Canada as of February 20, 2015.
47. The initial duration of the REP was until February 27, 2016 or three (3) years from the original date of sale, whichever period was longer for the customer.
48. However, on February 18, 2016 and in order to ensure that the REP would benefit additional customers who might face the issue, Apple extended the duration of the REP to provide four (4) years of coverage from the original date of sale or until January 1, 2017, whichever period was longer for the customer.
49. It takes several months to prepare, obtain approvals for, and roll out a comprehensive and worldwide REP such as this one, and Plaintiff's allegation that this REP was an attempt by Apple to circumvent the present class action is not only false, but effectively impossible.
50. Apple was proactive and diligent in rolling out the REP for the 2011 MBPs and even extended the duration of this REP in order to provide coverage and relief to additional customers who faced the issue.

b. The REP Provided Relief to Class Members

51. The REP for the 2011 MBPs provided that Apple would repair the affected laptops free of charge and reimburse customers who had already paid for repairs on their affected laptops.
52. For these repairs, Apple replaced the Logic Boards of the affected laptops and ensured that these replacement Logic Boards contained brand new graphics chips.

53. Through this REP, Apple repaired or reimbursed the cost of repairs for 8,423 Class Members' 2011 MBPs. In addition to this, Apple also repaired 2,080 Class Members' MBPs under Apple's warranty, 2,451 MBPs through AppleCare and a further 416 through a Customer Satisfaction code.
54. Furthermore, throughout the REP, Apple provided repairs for 2011 MBPs with graphical issues regardless of the cause. Apple repaired laptops with unrelated graphics problems and was thus over-inclusive in its approach and generous toward its customers. Indeed, not all 2011 MBPs serviced through the REP suffered from cracked solder bumps related to low-Tg underfill.
55. The REP for the 2011 MBPs provided sufficient relief to the Class Members with affected laptops.
56. Plaintiff himself received reimbursement under the REP for the repair costs for his replacement Logic Board (\$622.65).

IV. THE "VINTAGE" QUALIFICATION OF 2011 MBPS WAS PART OF NORMAL PRACTICE AND IS IRRELEVANT TO THIS CASE

57. Apple considers products that were manufactured over 5 years ago to be "vintage" products.
58. At that point, Apple discontinues standard hardware service for the product.
59. The designation is generally and generously consistent with the average expected lifecycle of physical electronic Apple products.
60. Apple designs its products to last as long as possible. The primary driver of the "vintage" end of support is simply component availability, as component supply often is not available to build or repair products after 5 years. This is in line with industry norms for product support globally.

61. In this case, Apple ultimately aligned the end of the REP, January 1, 2017 (or 4 years from the original date of sale, whichever was longer for the customer) with the normal vintage designation of the 2011 MBPs.
62. All customers who experienced any graphical issues, including the representative Plaintiff, Mr. Charbonneau, were taken care of through the REP before the end of the normal expected lifecycle of the 2011 MBP.

V. REPRESENTATIONS AS TO DURABILITY AND FITNESS FOR PURPOSE OF THE 2011 MBPS

63. Plaintiff alleges that Apple made false representations as to the durability and fitness of the 2011 MBPs, notably in light of the alleged “premium” price paid by customers to purchase the 2011 MBPs.
64. Apple denies this allegation and pleads that all representations made by Apple concerning the durability and fitness of the 2011 MBPs were accurate.
65. Some of the highlights of the 2011 MBPs found in **Exhibit P-3**, a historical page from the Apple website concerning the 2011 MBPs filed by the Plaintiff, include: 1) Up to 2x faster processors; 2) Up to 3x faster graphics; 3) Ultrafast Thunderbolt input/output; 4) A FaceTime HD camera; 5) A Multi-touch trackpad; and 6) a long-lasting battery.
66. Where **Exhibit P-3** mentions “up to 3x the performance of the previous models”, Apple specifies in the same document when this benchmark was obtained, what units were used, how the units were configured and how they were tested.
67. Apple also adds, in the same document, that “MacBook Pro continuously monitors system thermal and power conditions, and may adjust processor speed as needed to maintain optimal system operation”.

68. Plaintiff also relies on **Exhibit P-2**, another historical page from the Apple website entitled “Environmental Responsibility”, which states that Apple’s “built-in notebook batteries last up to five years”.
69. **Exhibit P-2** also states that Apple tested the MacBook Pros “to make sure the battery lasts for over 1000 charges”.
70. It is clear from the representations above that the graphics features were not the only new and interesting 2011 MBP features. There were many other highlights of the laptop itself, as well as the Apple “ecosystem” or platform as a whole, that could interest a potential purchaser.
71. During his pre-trial examination, Plaintiff testified that things such as “the battery life, the design for durability, the unibody construction, the... It was all of the design that really went into the MacBook Pro”¹ that explain the price difference between a MacBook and other laptops.
72. Plaintiff claims that the 2011 MBPs command a “premium”. However, Plaintiff admitted in his pre-trial examination that a Windows laptop in 2011 with a similar functionality to the 2011 MBP, without anything specific to the MacBook platform would have cost around \$1,200 or \$1,300.²
73. Plaintiff also added that “it wasn’t just the tech specs” of the 2011 MBP that explained the so-called “premium”.³
74. It appears clearly from Plaintiff’s testimony and the written representations made by Apple that the 2011 MBPs contained many attractive features not limited to its graphic capabilities.
75. Not every Class Member bought the 2011 MBP intending to use it for the same specific purpose. The 2011 MBP can be used in many different ways for many different purposes.

¹ Examination p. 27, line 7-10.

² Examination p. 24, line 4-12.

³ Examination p. 29, p. 7-11.

76. Just like the Plaintiff himself, other consumers like buying the “new model” and enjoy purchasing “new shiny things”.⁴

VI. OPERATING SPEEDS OF THE 2011 MBP

77. Plaintiff wrongly asserts that, in an attempt to conceal and delay the graphical issues, Apple decreased the 2011 MBPs' operating speed by 33% through software updates released in 2011.
78. Apple released an update to its operating system in 2011 but this update was completely unrelated to the GPU speed or to any graphical issues. As pleaded above, Apple only discovered that the AMD GPU's solder bumps could crack, over a long period of time and after a considerable number of temperature cycles, in 2014.
79. Apple never took any action whatsoever for the purpose of making the 2011 MBPs “slower”.
80. At no point did Apple decrease the operating speed of the 2011 MBPs in an attempt to conceal or delay any graphical issues.

VII. 2011 MBPS WERE AT ALL TIMES FREE OF ANY “GRAPHICS DEFECT”

a. The Choice of Material in the Graphics Chips Does not Constitute a “Defect”

81. The “Manufacturing Phase” section of this Defence describes the process of how the 2011 MBPs were made. The use of high-lead solders and low-Tg underfill in the graphics chip does not constitute an “defect” by any means. This was simply a choice of material made by a third party, AMD, which passed all appropriate testing.

⁴ Examination p. 45, line 8-9.

82. Contrary to the Plaintiff's assertion, the occasional graphical issue experienced by certain customers is not a "defect" in the 2011 MBPs. Rather, it is merely a possible symptom resulting from long-term use and a considerable number of temperature cycles of the AMD GPU with low-Tg underfill.
83. Only a relatively small number of 2011 MBP users experienced graphical issues.
84. Furthermore, the occasional graphical issue experienced by a customer is not a "defect" within the meaning of the CPA. Rather, it is an event that can occur if the particular use of the laptop causes strain, over time, on connecting materials found inside the AMD GPU.
85. In this case, AMD made a choice of low-Tg underfill material, which passed reliability testing. Any choice of material for a specific product will necessarily have an impact on the use one can make of that product. Such normal limitations do not constitute a defect.
86. Although Plaintiff claims to have experienced a graphical issue of some type, including after he intentionally "stress tested" his laptop, this does not prove that his laptop was defective, nor that those of other Class Members were.
87. Any material can be stressed, intentionally or otherwise, to the point of breaking – it is a question of levels and extremes. All materials have limits, but this does not mean they are defective. At all times, the AMD GPU met acceptable standards and testing.

b. Individual Experiences with Graphical Issues do not Constitute a "Defect"

88. During his pre-trial examination, when asked what the basis was for alleging that all 2011 MBPs are defective, Plaintiff testified that he reached this conclusion based on his own personal experience.⁵ Plaintiff effectively asserts that all 2011 MBPs are probably defective based on the fact that his laptop was allegedly defective.
89. Plaintiff's only additional support for his theory of a common "defect" is in the form of opinions expressed in online chat forums by non-expert individuals (often anonymous), such as in **Exhibits P-4** and **P-5**, which are speculative and have no useful evidentiary value.
90. Further, when asked what Plaintiff meant by "graphics defect" or "graphics defects" during his pre-trial examination, he admitted that: "graphic defect or defects in the plural, it's the same to me as they can, they can show up in many different ways. [...] But if you want to say graphical imperfections or anything that's been rendered on the screen that is not as desired or as designed, that's what I would consider a graphical defect".⁶
91. Most owners of a 2011 MBP never experienced a graphical issue, which demonstrates that there is no inherent "defect". For this vast majority of users, the 2011 MBP has now long since outlived its normal useful lifespan without any graphical issues.
92. The minority of 2011 MBPs that did at some point have graphical issues were repaired under the REP and ultimately also lasted for a normal and reasonable length of time.
93. Plaintiff further wrongly asserts, without any support, that the mere existence of an REP is an admission of a defect. However, a decision to repair, replace or refund a customer's purchase does not constitute admission of a defect. Apple chose to offer its REP to ensure its customers' satisfaction.

⁵ Examination p. 95, line 22-25.

⁶ Examination p. 93, line 15-25; p. 94, line 1-2.

94. At all times, the 2011 MBPs were free of “defect” and fit for their intended purpose.
95. Subsidiarily, if the Court finds that there is a defect of some kind, Apple is not responsible.

VIII. NO BASIS FOR COMPENSATORY DAMAGES

a. No Evidence of Class Member Damages

96. Plaintiff’s claims for compensatory and/or moral damages on behalf of the Class Members are unproven and unjustified.
97. The vast majority of the Class Members never suffered any damages at all, as their 2011 MBP never experienced any graphical issues, let alone graphical issues caused by an alleged “defect”.
98. To the extent that some Class Members did experience graphical issues, Apple has already provided relief to those Class Members through the REP.
99. Plaintiff himself was given a replacement MacBook Pro (that was a newer model than his 2011 MBP), and was also reimbursed the repair costs he incurred, as were other Class Members.
100. The Plaintiff effectively seeks damages on behalf of purchasers and owners who never experienced any graphical issues and/or were satisfied with Apple’s service under the REP.
101. Where Plaintiff seeks reimbursement of the purchase price, in those cases where graphical issues did manifest, such issues were not important or significant enough to entitle Class Members to reimbursement.
102. Further, where graphical issues manifested after the normal and reasonable life of the 2011 MBP, there can be no claim for damages.

103. Class Members did not suffer the damages claimed, including but not limited to stress and inconvenience, loss of work product, loss of income, loss of time, loss of resale value and the cost of purchasing a replacement laptop.
104. In any event, the claim for damages is highly individual in nature and not amenable to collective recovery.
105. In addition, Class Members have no claim for loss of resale value. Plaintiff himself testified that in 2014, in his view, the 2011 MBPs were worth 40% or 50% of their value and that today, he would not recommend to anyone to buy an 8-year-old computer.⁷

b. No Evidence of Plaintiff's own Damages

106. Plaintiff has provided no evidence in support of a claim for loss of work product or loss of income, or any other alleged losses.
107. Plaintiff testified that, during the brief period when his 2011 MBP was allegedly unusable, he had other computers at his disposition, including two desktop computers at home and multiple computers at his job at Air Canada, one of which was a "Mac computer".⁸
108. Plaintiff suffered no damages of any kind and any inconvenience he may have experienced was minor and does not amount to a compensable injury.
109. In any event, such minor inconvenience clearly would be personal and individual.

⁷ Examination p. 136, line 21-23; p. 137, line 24-25; p. 138, line 1-2.

⁸ Examination p. 16, line 10-12; p. 18, line 21-24; p. 51, line 19-25; p. 52, line 1-5.

110. Subsidiarily, if Plaintiff suffered any damages, he failed to mitigate these. Rather, he purposely "stress tested" his 2011 MBP, several times, with the goal of causing graphical issues with his 2011 MBP.⁹

IX. NO BASIS FOR PUNITIVE DAMAGES

111. Apple's conduct before, during and after the issues in litigation was in no way lax, passive, ignorant, careless or negligent.

112. On the contrary, Apple behaved as an exemplary corporate citizen, choosing to investigate reported graphical issues with its 2011 MBPs and to offer its REP to ensure its customers' satisfaction.

FOR THESE REASONS, MAY IT PLEASE THIS HONORABLE COURT TO :

GRANT the present Defence of the Defendants, Apple Inc. and Apple Canada Inc.

DISMISS Representative Plaintiff's *Originating Class Action Application*.

ALL OF WHICH IS REQUESTED with costs, including the costs of expertise, for the preparation of reports and attendance at trial.

MONTREAL, June 12, 2019

McCarthy Tétrault LLP
MCCARTHY TÉTRAULT LLP
Counsel for Defendants, Apple Inc. and
Apple Canada Inc.

⁹ Examination p. 60, line 25; p. 61, line 1-22; p. 72, line 10-16; p. 74, line 24-25; p. 75, line 1-11.

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**WRITTEN DEFENCE OF
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ORIGINAL

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