

July 11, 2012

***Via Email and Overnight Delivery***

Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, D.C. 20549-3720

Attention: Tim Buchmiller  
Aslynn Hogue  
Praveen Kartholy  
Gary Todd

**Re: Ambarella, Inc.  
Registration Statement on Form S-1  
Initially filed June 10, 2011  
File No. 333-174838**

Ladies and Gentlemen:

On behalf of Ambarella, Inc. (the "**Company**"), we submit this letter in response to comments from the staff (the "**Staff**") of the Securities and Exchange Commission (the "**Commission**") received by letter dated July 7, 2011, relating to the Company's Registration Statement on Form S-1 (File No. 333-174838) filed with the Commission on June 10, 2011 (the "**Registration Statement**").

The Company is concurrently submitting on a confidential basis to the Commission via email Amendment No. 1 to the Registration Statement ("**Amendment No. 1**"). For the convenience of the Staff, we will provide 'hard' copies, complete with exhibits, of Amendment No. 1 as well.

In this letter, we have recited the comments from the Staff in italicized, bold type and have followed each comment with the Company's response.

**Ambarella, Inc., page 1**

- 1. Please provide us independent, objective support for your statements of leadership here and throughout your document, including your beliefs that you are a "leading provider" of semiconductor processing solutions and of video processing solutions for hybrid cameras and of your "leadership position" and "leading technology." Please also provide us support for your belief that your technology allows you to enter new markets efficiently and cost effectively.***

The Company supplementally advises the Staff that, based on its experience as a market participant, its own research, and its communications with its customers and other suppliers, it believes that it is a leading developer of semiconductor processing solutions for video that enable high-definition video capture, sharing and display.

The Company believes it has been at the forefront of the high-definition camera market. The Company's first product, the A1 SoC, was the first commercially available full high-definition SoC for the camcorder market. The Company's A6 SoC was the first high-definition encoder/decoder for the broadcast infrastructure market and represented a significant advancement over the then-existing solutions available in the market. The Company's A5S SoC was the first 45 nanometer SoC for hybrid video cameras, and the A7L is the first 32 nanometer SoC for hybrid video cameras. The Company's ability to transition its technology to lower process nodes enables it to provide its technology as a cost-effective solution in a manner that the Company does not see occurring with other providers of video procession solutions.

The Company's belief that it has a technology leadership position is based primarily upon its video compression efficiency, power efficiency and the scalable nature of its technology platform. The Company believes that video compression efficiency and power efficiency are critical factors in the markets in which the Company competes. Compression efficiency is important to the image quality and the storage requirements of the device, as well as to the ability of the device to enable wireless connectivity. Based upon the Company's internal testing against competitive products, the Company believes that its current products provide significantly better compression efficiency and that its products provide leading power efficiency, both of which are critical for mobile camera devices.

The Company's technology architecture is highly scalable, which allows it to apply the same technology to products addressing a number of different markets. For example, the Company's A5 SoC is designed into digital video cameras, automotive aftermarket cameras and IP security cameras. Similarly, the Company's A7L SoC addresses the digital video camera, IP security camera and DSC markets. Moreover, as another example of the scalability of the Company's technology, the Company's A7L SoC, which is targeted for consumer camera applications, is based on the same technology platform as the Company's A6 SoC broadcast solution. The scalability of the Company's technology architecture allows it to provide solutions to meet the needs of both the camera market as well as the broadcast infrastructure market.

In addition, the Company has over 50 issued and pending patents addressing its technology.

- Please tell us the objective criteria used to determine which entities to identify in your prospectus, such as in the fourth paragraph of this section, and tell us whether any other entities satisfy these criteria. If you elect to highlight customers in your summary, please provide equally prominent disclosure of the substance of the first risk factor on pages 8 and 14.***

The Company respectfully advises the Staff that the entities identified in the prospectus are those that have or have had a material significance to the Company's business, operations or financial results. The entities identified as customers on pages 1, 46, 70 and 82 of Amendment No. 1 are the Company's largest customers and end-customers in their particular markets, by revenue to the Company, for fiscal

year 2012, and represented over 70% of the Company's total revenue for fiscal year 2012. Sony Corporation and Eastman Kodak Company have been removed as they did not represent a significant portion of the Company's revenue in fiscal year 2012.

In response to the Staff's comment, the Company has revised page 1 of Amendment No. 1 to provide equally prominent disclosure of the substance of the customer-related risk factor.

**Our Competitive Strengths, page 3**

- 3. We note your disclosure on page 4 that your close relationships with leading ODMs and OEMs provide you with insight into product roadmaps and trends. Please provide equally prominent disclosure of the limitations discussed on the top of page 9, such as your limited visibility on customer demand or whether your customers' products will be commercially successful.***

The Company respectfully advises the Staff that the disclosure regarding its close relationships with ODMs and OEMs that was included on page 4 of the original Registration Statement has been removed from Amendment No. 1.

**Comparison of the Fiscal Years . . . , page 46**

- 4. We note the variances in income (loss) from operations and net income (loss) during the periods presented. Under separate captions, please expand your discussion and analysis to explain clearly to investors the reasons for the variances in your income (loss) from operations and net income (loss) for the periods presented. Also disclose any known material trends affecting your operating and net income for the periods presented. Refer to Item 303(b) of Regulation S-K.***

The Company respectfully advises the Staff that it believes it has complied in all material respects with Item 303(a) and (b) of Regulation S-K. Beginning on page 48 of Amendment No. 1, the Company has provided a discussion of the material factors affecting changes in income (loss) from operation and net income (loss) for the periods presented. The discussion includes the qualitative factors or any known material trends that impact revenue, costs of revenue, operating expenses and the impact of income taxes. In addition, the Comparison of Fiscal Years beginning on page 54 of Amendment No. 1 contains further discussion of these factors, including quantification of any material factors affecting the Company's results of operations.

**Provision (Benefit) for Income Taxes, page 47**

- 5. We see the significance of the benefit from lower foreign tax rates on the provision for income taxes. Please consider providing disclosures to explain in greater detail the impact on your effective income tax rates and obligations of having proportionally higher earnings in countries where you have lower statutory tax rates. You should consider explaining the relationship between the foreign and domestic effective tax rates in greater detail. It appears as though separately discussing the foreign effective income tax rates is important information necessary to understanding your results of operations. We refer you to Item 303(a)(3)(i) of Regulation S-K and Section III.B of SEC Release 33-8350.***

The Company respectfully advises the Staff that the Company carefully considered Item 303(a)(3)(i) of Regulation S-K and Section III.B of SEC Release 33-8350 and page 51 of Amendment No. 1 includes a discussion of the factors affecting the provision for income taxes and, in response to the Staff's comment, the Company has revised its disclosure on page 51 of Amendment No. 1 to clarify the relationship between domestic and foreign tax rates.

**Liquidity and Capital Resources, page 50**

6. *If significant to an understanding of your liquidity, please clarify the amount of cash and cash equivalents held outside of the U.S. Also, describe or refer to the description in Note 11 of the potential consequences if such amounts were repatriated. We refer you to Item 303(a)(1) of Regulation S-K and Section IV of SEC Release 33-8350.*

The Company respectfully advises the Staff that the majority of the Company's cash and cash equivalents are held directly by the registrant, Ambarella, Inc., a Cayman Islands company, in U.S. banks. Cash and cash equivalents held by foreign subsidiaries (including the U.S. subsidiary) are not significant and, therefore, do not pose material liquidity or capital resource issues. If, in the future, a significant amount of cash and cash equivalents were to accumulate in a subsidiary of the Company, then the Company would provide the appropriate disclosure.

The Company has also disclosed the potential consequences of repatriating the cash balances held by its foreign subsidiaries on page F-24 of Amendment No. 1.

**Critical Accounting Policies and Significant Management Estimates, page 53**

**Stock-Based Compensation, page 54**

7. *Please tell us when discussions were initiated with your underwriter(s) about possible offering price ranges and provide us a history of those discussions. We will delay final assessment of stock-based compensation pending inclusion of the estimated IPO price in the filing.*

The Company respectfully advises the Staff that the underwriters have not as yet communicated to the Company an estimated offering price range. The Company will advise the Staff of the Company's estimated offering price range when it is available, including the date on which the underwriters first communicated to the Company a possible offering price range. The Company will update its disclosure in the prospectus once an estimated IPO price is known.

8. *Please reconcile for us management's most recent fair value per share determination of \$1.96 to the current estimated IPO price per share. Explain and quantify factors responsible for any significant differences between the two amounts.*

The Company respectfully advises the Staff that, once the estimated IPO price is available, the Company will provide a discussion of the factors contributing to any significant differences between the estimated IPO price and the fair value of the Company's common stock as of the most recent valuation date.

9. ***In this regard, we note that the estimated per share fair value increased only \$.04 per share from \$1.92 to \$1.96 between February 2010 and March 2011. Please provide us a discussion of the factors and key assumptions leading management to conclude that per share fair value was essentially flat during that period.***

In response to the Staff's comment, the Company has provided additional disclosure beginning on page 66 of Amendment No. 1 regarding its determination of per share fair value since February 2010, including the factors considered and key assumptions made in determining the per share fair value.

10. ***We note that you apply "various" income and market approaches in valuing your ordinary shares. Please expand to describe the actual models applied during 2010 and to-date in 2011, including the rationale for any changes in the models applied. Please also clarify how you weighted the results when applying more than one approach.***

In response to the Staff's comment, the Company has revised its disclosure on page 65 of Amendment No. 1 to remove the word "various" and to note that the income and market valuation approaches have been applied consistently across the valuation periods. In addition, for any of the valuation approaches which require weighting or assessment of the probabilities of the various scenarios occurring, the Company has included disclosure of any significant changes in the weighting of such probabilities.

11. ***As a related matter with respect to the income and market approaches described on page 56, please tell us, with a view toward expanded disclosure, the actual key assumptions that were the drivers of the per share valuations used for stock compensation purposes during 2010 and to-date in 2011. Also, describe any significant changes in those assumptions during the period. Please also respond with respect to the probability expected return model described on page 57.***

In response to the Staff's comment, the Company has expanded its disclosure beginning on page 66 of Amendment No. 1 to describe the key assumptions, and significant changes in such assumptions, for the per share valuations used for stock compensation purposes during 2010, 2011 and 2012 year to date.

**Company Overview, page 59**

12. ***So that investors may better understand your infrastructure market, please disclose what types of infrastructure products your solutions are designed into. In this regard, we note that you refer to the Cisco study regarding the growth in video traffic on the Internet. With a view towards enhanced disclosure, please tell us how and why the Cisco forecasts, which we would understand in the context of the growth in demand for Cisco's products such as switches and routers, relate to the increase in demand for the products that incorporate your solutions. Please also be more specific about where in the network your solutions reside.***

In response to the Staff's comment, the Company has added disclosure to page 77 of Amendment No. 1 to specify the types of infrastructure devices into which the Company's solutions are designed. The data disclosed in the 2011 Cisco Report is important to the Company's business because increases in video traffic created by consumers reflect demand for video capture devices, such as cameras into which the Company's solutions are designed, and a need for satellite and cable operators, who represent our infrastructure end customers, to be able to efficiently manage increased video traffic.

**Trends Impacting the Video Content Creation and Distribution Markets, page 60**

**13. Please provide us with copies of the International Data Corporation data cited in the third bullet point. Clearly mark the relevant sections that support the data you have included.**

In response to the Staff's comment, the Company is supplementally providing under separate cover the International Data Corporation reports marked to cross-reference to the various statements in Amendment No. 1 that rely on the industry data contained in the reports.

**14. Regarding the market data cited in this prospectus, please tell us:**

- **how you confirmed that the data reflects the most recent available information;**
- **whether the data is publicly available;**
- **whether you paid for the compilation of any data;**
- **whether any data was prepared for your use in the registration statement; and**
- **whether the sources of the data consented to your use of their names and data in the registration statement.**

***If you were affiliated with the preparation of any data, please ensure that your disclosure clearly indicates the nature of all such affiliations.***

In response to the Staff's comment, the Company respectfully advises the Staff that the Company has cited data and market statistics in the Registration Statement from three independent sources: Cisco, the Nielsen Company and International Data Corporation. The Nielsen Company and International Data Corporation are independent market research firms. The Company has confirmed with each of the sources that the data is from the most recent available information provided by the respective source. Prior to requesting effectiveness of the Registration Statement, the Company will confirm with these sources that the Registration Statement contains the most recent available data from the respective source.

All of the quoted data is contained in publicly available reports or through subscriptions that are available to the public for a fee. The data from the Cisco Visual Networking Index and the Nielsen Company cited in the Registration Statement is publically available without a fee. The data from

International Data Corporation is available to anyone in the public for purchase. While the fee arrangements with several of these organizations are based on the number of reports that are accessed, neither the Company nor any of the underwriters paid for the compilation of any of the data cited in the Registration Statement. None of such data provided by the third parties was prepared specifically for use by the Company in the Registration Statement.

The Company obtained a consent from each of Cisco, the Nielsen Company and International Data Corporation to use their name and the data cited in the Registration Statement. The Company confirms that it is not affiliated with the preparation of any of the data cited in the Registration Statement.

**Products, page 66**

15. *Please revise where appropriate to explain the life cycle stage of your principal products. We note from your disclosure, such as on page 69, that your products typically have life cycles of six to 18 months for the camera market, representing approximately 75% of your revenue in 2011, and two to five years for the infrastructure market, representing approximately 25% of your revenue in 2011. Please also clarify if the former generations of your products are still generating a material amount of revenue.*

In response to the Staff's comment, the Company has revised the product chart on page 79 of Amendment No. 1 to reference target markets for the Company's products rather than product generation. All products reflected in such chart are currently generating revenue. The life cycles of the Company's SoC products are generally dependent on the life cycles of the products into which the Company's SoCs are designed. Consequently, the Company is not able to provide meaningful disclosure concerning the current life cycle stages of its products. The disclosure on page 82 of Amendment No. 1 that the product life cycles in the camera market are six to 18 months represents the product life cycle of design wins in the camera market, or that period of time over which the Company generates revenue from that particular design win.

**Summary of Director Compensation, page 80**

16. *We note your disclosure in the first paragraph that you expect to implement an annual cash and equity compensation program for your non-employee directors. Please revise to clarify the material terms of your director compensation agreement following the completion of the offering, when known. Refer to Regulation S-K Item 403(k)(3).*

The Company respectfully advises the Staff that it will disclose the material terms of director compensation following completion of the offering once such a compensation program is established.

**Sales Representative Agreement . . . , page 102**

17. *Please revise to clarify any amounts outstanding during the periods presented. We note your disclosure of accounts receivable from WT Microelectronics Co., Ltd. on page F-25.*

In response to the Staff's comment, the Company has revised the disclosure on page 108 of Amendment No. 1 to clarify the amounts outstanding during the periods presented.

**Description of Share Capital, page 106**

- 18. Please revise to describe briefly any provision of your amended and restated memorandum and articles of association that would have an effect of delaying, deferring, or preventing a change in control. See Regulation S-K Item 202(a)(5). For example, we note your disclosure on pages 29-30.**

In response to the Staff's comment, the Company has provided additional disclosure beginning on page 113 of Amendment No. 1 concerning the provisions of Cayman Islands law and the Company's amended and restated memorandum and articles of association that would have an effect of delaying, deferring, or preventing a change in control.

**Financial Statements, page F-1**

- 19. Please update the financial statements when required by Rule 3-12 of Regulation S-X.**

The Company respectfully advises the Staff that the Company has updated its financial statements as required by Rule 3-12 of Regulation S-X.

**Note 1. Organization and Summary of Significant Accounting Policies, page F-7**

**Revenue Recognition, page F-8**

- 20. You indicate that revenue from sales to OEMs and ODMs is "generally" recognized at shipment. Unless insignificant, please also describe the circumstances when revenue from sales to these types of entities is recognized at some other point in time.**

The Company respectfully advises the Staff that the revenue from sales directly to OEMs and ODMs is recognized upon shipment provided persuasive evidence of an arrangement exists, legal title to the products has transferred, the fee is fixed or determinable, and collection of the resulting receivable is reasonably assured. The Company has revised the disclosure on page F-10 of Amendment No. 1 to remove the word "generally."

- 21. With respect to logistics providers, please disclose the amounts of deferred revenues and deferred costs of sales included in the balance sheet line items for deferred revenue.**

In response to the Staff's comment, the Company has revised the disclosure in Note 7 (Deferred Revenue and Deferred Cost) on page F-16 of Amendment No. 1 to disclose the amount of deferred revenue and deferred cost of revenue with respect to logistics providers.

**Note 11. Income Taxes, page F-21**

- 22. We note the caption in the income tax reconciliation for the Non-U.S. foreign tax differential. Please tell us what the foreign rate differential represents in each of the years presented. As part of your response, explain how the foreign rate differential was determined in each fiscal year and identify the significant components of this item. Also, clarify for us whether there are any significant benefits from tax holidays or abatements.**

The Company respectfully advises the Staff that, for each of the three years to which the income tax reconciliation disclosed in Note 12 (Income Taxes) of the financial statements on page F-23 of Amendment No. 1 applies, the non-U.S. foreign tax differential represents the impact to the tax rate as a result of earning income outside of the United States, which is taxed at lower rates than the U.S. This is calculated by determining the (hypothetical) U.S. liability related to those earnings by taking the total amount of foreign earnings and multiplying it by the statutory tax rate of 34%. The Company then compares the amount calculated above to the actual amount of foreign taxes accrued, which includes local income taxes, potential withholding taxes, and other franchise or capital taxes. The difference between the two amounts represents the amount of the benefit related to the fact that these profits were earned in the foreign jurisdictions as opposed to in the U.S.

The Company further notes that it had considered SEC Staff Accounting Bulletin Topic 11-C and concluded that there has been no significant benefit to the Company from tax holidays or abatements.

**Exhibit Index**

**23. Please file, or tell us why you did not file, the following as exhibits:**

- ***your lease agreements for your facilities in Taiwan and China, mentioned on page 73;***
- ***the voting agreement, mentioned on page 77;***
- ***your offer letters with Victor Lee, Didier LeGall, and Christopher Day, mentioned on page 92; and***
- ***your license agreement with Cadence Design Systems, Inc., mentioned on page 102.***

The Company respectfully acknowledges the Staff's comment regarding the Company's exclusion of its lease agreements for its facilities in Taiwan and China, the voting agreement, offer letters with Victor Lee, Didier LeGall and Christopher Day, and the license agreement with Cadence Design Systems, Inc.

In determining whether to file the lease agreements for the Company's facilities in Taiwan and China as material contract pursuant to Item 601(b) of Regulation S-K, the Company considered the annual payments to be made by the Company under such agreements and its ability to obtain replacement facility space if these agreements were terminated. After consideration of these factors, the Company concluded that it is not materially dependent on these lease agreements and thus it is not required to file the agreements pursuant to Item 601(b) of Regulation S-K.

In determining whether to file the voting agreement, the Company considered the fact that such agreement will terminate automatically upon the closing of this offering. As a result, the Company's directors will no longer be elected pursuant to such agreement, and such agreement will no longer be material, or even apply any further, to the Company. Therefore, the Company respectfully submits that such agreement is not required to be filed pursuant to Item 601(b) of Regulation S-K.

With respect to the offer letters to Messrs. Lee, LeGall and Day, the Company respectfully advises the Staff that the period during which the material terms of such offer letters were effective had expired prior to the filing of the Registration Statement. The terms set forth in the offer letters – salary, benefits, etc. – are generally applicable to management and non-management employees, and no other terms of the offer letters remain in effect, making the offer letters immaterial in amount and significance. Moreover, Mr. Lee has not served as our Chief Financial Officer since March 2011 and is no longer with the Company.

With respect to the license agreement with Cadence Design Systems, Inc., the Company respectfully advises the Staff that the discussion of such license agreement is included in the Registration Statement because the Company believes such discussion is relevant disclosure as a related party transaction, since Lip-Bu Tan, a member of the Company's board of directors, is also the Chief Executive Officer, President and a member of the board of directors of Cadence. However, Mr. Tan does not derive any direct or indirect material benefit from such agreement and was not involved directly or indirectly in the negotiation of the terms of such agreement. In determining whether to file the license agreement as a material contract pursuant to Item 601(b) of Regulation S-K, the Company also considered that technology similar to that covered by the license agreement is generally available from third parties on similar terms and that the Company's payment obligations under the license agreement are not material to the Company's financial position. After consideration of these factors, the Company concluded that it is not materially dependent on this agreement and thus not required to file the agreement pursuant to Item 601(b) of Regulation S-K.

**24. We note that you intend to submit a request for confidential treatment for portions of Exhibit 10.8. We will provide any comments on your request in a separate letter. Please note that comments on your request must be resolved before we may accelerate the effectiveness of this registration statement.**

The Company acknowledges that any comments on the confidential treatment request will be provided by the Staff in a separate letter and that such comments must be resolved before the effectiveness of the Registration Statement may be accelerated.

**25. To the extent there is a delay in requesting effectiveness of your registration statement, or there is any change, other than typographical, made to the financial statements, or there have been intervening events since the prior filing that are material to the company, please provide a currently dated and signed consent from your independent accountants with your next amendment.**

The Company respectfully acknowledges the Staff's comment and has provided a currently dated and signed consent from its independent accountants.

\* \* \* \* \*

Please direct your questions or comments regarding the Company's responses or Amendment No. 1 to me at (650) 320-4693. Thank you for your assistance.

Sincerely,

WILSON SONSINI GOODRICH & ROSATI  
Professional Corporation

/s/ Aaron J. Alter

Aaron J. Alter

Enclosures

cc (w/encl.):

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