



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

Mail Stop 3030

April 19, 2016

Via E-mail

Kevin M. King  
Chief Executive Officer  
iRhythm Technologies, Inc.  
650 Townsend Street, Suite 380  
San Francisco, CA 94103

**Re: iRhythm Technologies, Inc.  
Amendment No. 1 to  
Draft Registration Statement on Form S-1  
Submitted March 30, 2016  
CIK No. 0001388658**

Dear Mr. King:

We have reviewed your amended draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Prospectus Summary, page 1

1. We note in your response to prior comment 2 that none of the principal investigators or primary authors of the peer-reviewed studies were your employees. Please expand your response to tell us whether any of the studies were funded, in part or in whole, by you or any related parties, and whether any related parties participated in the studies, even if they were not the principal investigator or primary author.

Use of Proceeds, page 43

2. We note the revised disclosure in response to prior comment 9 regarding the approximate amount of proceeds intended for each listed purpose. As further requested by prior comment 9, since it appears you may potentially use some of the proceeds to fund clinical studies, please tell us about any trials or studies needed at this time to support continued commercialization of your product or that you view as necessary to your business on a going forward basis.

Management's Discussion and Analysis, page 50

Cost of Revenue and Gross Margin, page 51

3. Refer to your disclosure in the first paragraph on page 53 that increases in your 2015 revenue were due primarily to increases in volume and, "to a lesser extent," to increases in price. Please quantify the proportion of your increased revenue attributable to volume increases versus price increases.

Value to Payors, page 69

4. We note your response to our prior comment number 17. Please tell us how you have ensured that the data presented in the study remains current.

Clinical Results and Studies, page 74

5. We note your response to our prior comment number 20; however, since these are statistics for clinical relevance and not marketing, please explain that the percentage is based upon clinical guidelines rather than a large sample size.
6. We note the addition of your discussion of the LIBERTY-HCM study in the third full paragraph on page 76. Please note that reliance on technical terms can hinder an investor's ability to understand your disclosure. In this regard, please revise to clarify your description of the LIBERTY-HCM study so that investors who are unfamiliar with the terms used in this paragraph can understand the purpose and significance of this study as it relates to your product. Please also disclose any results of this study to date.

Kevin M. King  
iRhythm Technologies, Inc.  
April 19, 2016  
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You may contact Kristin Lochhead at (202) 551-3664 or Gary Todd, Senior Accountant at (202) 551-3605 if you have questions regarding comments on the financial statements and related matters. Please contact Laurie Abbott at (202) 551-8071 or me at (202) 551-3528 with any other questions.

Sincerely,

/s/ Amanda Ravitz

Amanda Ravitz  
Assistant Director  
Office of Electronics and Machinery

cc: Philip H. Oettinger  
Wilson Sonsini Goodrich & Rosati