

**To whom it may concern,**

Denys Volkov has joined Dirac Research AB (Uppsala, Sweden) in 2019 after his master program at the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” as a research engineer. The company specializes in digital audio optimization, provides a perfected sound experience in any type of listening environment, including mobile, VR/AR, gaming, automotive, residential, and commercial AV. Offering the industry’s most powerful suite of end-to-end digital audio solutions, Dirac serves as a one-stop source for premium digital signal processing technologies.

At the beginning of his employment, Denys’ main tasks were:

- Develop loudspeaker identification system
- Integrate laser displacement measurement and validation for speaker protection algorithm
- Develop nonlinear loudspeaker model to be used in nonlinear control applications

During his employment, Denys also has contributed to various projects regarding sound optimization in rooms and car cabins, developing digital signal processing algorithms and others. As a Chief Scientist at Dirac Research AB, I can confirm that the level of skills and knowledge that Denys has after his graduation were enough to accomplish all dedicated tasks on satisfactory level.

A handwritten signature in black ink, appearing to read 'Lars-Johan Brännmark'.

**Lars-Johan Brännmark**

Uppsala, Sweden

Chief Scientist,

26/04/2021

Dirac Research AB