audiopixels®
Breaking the Barriers of Sound

30 March 2021

The Manager
Company Announcements Office
ASX Limited
Exchange Centre
20 Bridge Street
Sydney NSW 2000

Market Update – Progress Report

Management is pleased to inform its shareholders that the company has produced both individual chips, and multi-chip boards that operate and play outside of the cleanroom.

As described in our 6 October 2020 market update, the primary objective of this development phase was to advance the technology so that devices can operate outside the confines of the cleanroom in its intended real-world environment.

1. The package has proven to protect the MEMS from the environment (dust particles, humidity etc.) with minimal acoustic attenuation, while providing an industry standard electrical interface.
2. The current setup operates up to 4 chips in parallel demonstrating the scalability of the technology.
3. Older versions of the MEMS chip were utilized for the first batches of packaged chips, as the iterative development process required large number of chips to be damaged during the packaging development and optimization process.
4. Once the packaging process is finalised, the latest generation of MEMS chips will then be packaged, and management will use these chips with the intention of being able to demonstrate the technology to its full extent.
5. Despite using the older generations of packaged MEMS chips the yield was sufficient to assemble several evaluation boards proving the chips, algorithms, software and electronics are working as expected.
6. The company is in advanced stages of development of a stand-alone evaluation board that is capable of driving between 1 and 80 chips. This platform would be used to

demonstrate sound performance, control algorithms, directivity manipulation and other advanced features of the technology.

Achievement of this milestone required overcoming rather extensive challenges to properly package the device in a manner that ensures that functional dies, while in wafer form, are not rendered inoperable as a result of the package or packaging process.

Packaging of a MEMS device is not only application specific, but has significant differences that render much of the equipment, tools and techniques commonly used to package conventional integrated circuits (IC's), unusable. For example conventional pick-and-place tools, techniques and fixtures cannot be used to package a MEMS device, in order to avoid damaging the delicate surface features, the dies can only be handled from its sides, Another example is the inapplicability of many conventional adhesive materials and its application techniques when attaching the die or the lid to the substrate, as superfluous disbursement or unwarranted stress introduced by the adhesives, often leads to interference and failure of the devices micromechanical features. This among other reasons is why most chip packaging houses do not package MEMS, and those that do, inherently require a substantial "learning curve" and multiple development iterations.

Management is all the more gratified that it was able to achieve this critical milestone while being severely encumbered by the COVID-19 pandemic. Limitations and restrictions associated with the pandemic prohibited the hands-on interaction, inspection and guidance typically required for such activities. Not only did these circumstances extend timelines but it also necessitated extra iterations to achieve the desired objectives, which is why older generations of MEMS dies were preferred during development and stabilization of the packaging process. Nonetheless despite all these limitations the demonstration systems work as intended, and will continually improve in the coming weeks as the packaging process is optimized and we begin to introduce newer generations of MEMS dies into the chip packaging process.

This announcement has been authorised for release to ASX by Fred Bart, Chairman.

About Audio Pixels Holdings Limited

Audio Pixels Limited, founded in 2006, is a wholly owned subsidiary of Audio Pixels Holdings Limited, listed in Australia under the stock code of AKP (Level 1 ADR's on OTC: ADPXY). Backed by exceptional multidisciplinary scientific research, design, and production capabilities, Audio Pixels has become a world leader in digital loudspeaker technologies. Audio Pixels' patented technologies employ entirely new techniques to generate sound waves directly from a digital audio stream using micro-electromechanical structures (MEMS). Its revolutionary technological platform for reproducing sound enables the production of an entirely new generation of speakers that will exceed the performance specifications and design demands of the world's top consumer electronics manufacturers. For more information, visit www.audiopixels.com.au/.

Forward-looking statements

This release may contain certain forward-looking statements with respect to the financial condition, results of operations and business of AKP and certain of the plans and objectives of AKP with respect to these items. By their nature, forward-looking statements involve risk and uncertainty because they relate to events and depend on circumstances that will occur in the future and there are many factors that could cause actual results and developments to differ materially from those expressed or implied by these forward-looking statements.

Audio Pixels Holdings Limited ■ **ACN** 094 384 273 ■ Suite 3, Level 12, 75 Elizabeth St, Sydney NSW 2000 Australia

Phone: +61 2 9233 3915 ■ **Fax:** +61 2 9232 3411 ■ **Email:** iandennis@audiopixels.com.au