The packaged MEMS microphone market was worth $833 million in 2013 and is driven by Apple, the leading buyer, according to market researcher IHS. The market research firm added that Apple, by imposing tough penalties for supplier delays, has driven the creation of inventory surplus at multiple stages in the MEMS microphone build process.

The market splits into two segments. The higher value market comprises suppliers of packaged MEMS microphones, who may outsource the manufacture of one or both of the MEMS element and the mixed-signal ASIC that calibrates and conditions the electrical signal either in analog or digital form. The subsidiary market is for the bare MEMS die themselves.

Knowles Electronics, part of Knowles Corp. that recently span off from Dover Corp., dominates the packaged MEMS microphone market with 59 percent of the market in 2013, IHS said. Infineon Technologies AG is an even more dominant supplier of MEMS microphone die with nearly 80 percent of the market, in terms of unit shipments, as shown in the attached tables.

Knowles market share increased from 55 percent in 2012 as it has done well in supplying leading customers Apple and Samsung. Knowles supplies two of the three high-performance MEMS microphones in Apple's iPhone 5s, as well as one of three in the iPhone 5, IHS said.
Apple was the first to use high-performance MEMS microphones, initially seen in 2012 with the iPhone 5, with Samsung then following suit shortly afterward via its Galaxy S4 and Note 3 smartphones. MEMS microphones are now also found in tablets like the Apple iPad, as well as in Apple headsets.

Chinese suppliers AAC and Goertek are in second and third place with 13 and 7 percent, respectively. AAC supplies one of the three high-performance microphones in the iPhone 5 and is now in the 5s, while Goertek is the main supplier for the MEMS microphone in the headset that sells along with the iPhone. AAC expanded sales by 8 percent in 2013 compared with 2012 while Goertek had even greater growth at 35 percent.

Meanwhile, fourth-ranked BSE of South Korea reaped the benefits of supplying to Apple rival Samsung, pushing up the microphone maker's revenue by more than 250 percent from 2012 to 2013. STMicroelectronics continued to see its MEMS microphone business expand after gaining design wins in the iPad.

Bosch, which acquired MEMS microphone pioneer Akustica in 2009, sits in tenth position.

AAC, Goertek, BSE and Japan’s Hosiden focus on adding value through packaging and supply chain management. They buy a standard MEMS die and an ASIC and then package them for selling under
their own brand, according to IHS. The four makers have been vendors of electret condenser microphones and have little or no MEMS or semiconductor background, the researcher added.

In turn these companies are supplied by Infineon and a few other vendors of MEMS microphone die. Infineon's MEMS microphone business tripled in 2012 and increased another 50 percent in 2013, according to IHS.

*IHS "MEMS Microphones Report - 2014" information page*

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