Enhanced Perceptual Rub & Buzz Measurement for Production Line Use

By Steve Temme, Listen, Inc.

Perceptual distortion measurements are often considered the holy grail of end-of-line tests because rejecting devices with only audible faults increases yield. Although such measurements have been around since 2011, production line adoption has been slow because until now, sensitivity to background noise has made limit-setting challenging. In this paper, we introduce a new algorithm that uses proprietary technology to reduce the impact of background noise on the measurement and offer more repeatable results. This facilitates limit setting on the production line, and makes it a truly viable production line metric for increasing yield. Results from various algorithms will be shown, and their correlation to subjective and other non-perceptual distortion metrics explained.

Steve Temme is founder and President of Listen, Inc., manufacturer of the SoundCheck audio test system. Steve founded the company in 1995, and for the past 20 years the company has remained on the cutting edge of research into audio measurement, regularly introducing new measurement techniques, algorithms and hardware. Prior to founding Listen, Steve worked for many years as an acoustic test and measurement applications engineer at Brüel & Kjær, and also as a loudspeaker design engineer at Apogee Acoustics. He holds a BSME from Tufts University, has authored numerous papers on acoustic testing, and has lectured extensively throughout the world.