



# μTECHNOLOGIES

## OVERVIEW

Today's advanced voice communication products and applications require high-quality voice input components. These demanding voice input applications, including mobile phones, Bluetooth headsets, array microphones, speakerphone and conference microphones, can take advantage of MWM's innovative family of μTechnologies. μTechnologies represent state-of-the-art approaches to dealing with the three most common communication killers:

- > Wind induced noise pickup
- > EMI interference
- > Microphone self-noise

Each of these annoyances can destroy market success of your end product. Don't let these communication killers get in the way of your killer communication product! Our μTechnologies solutions specifically combat these communication killers.



## μTECHNOLOGY PRODUCTS

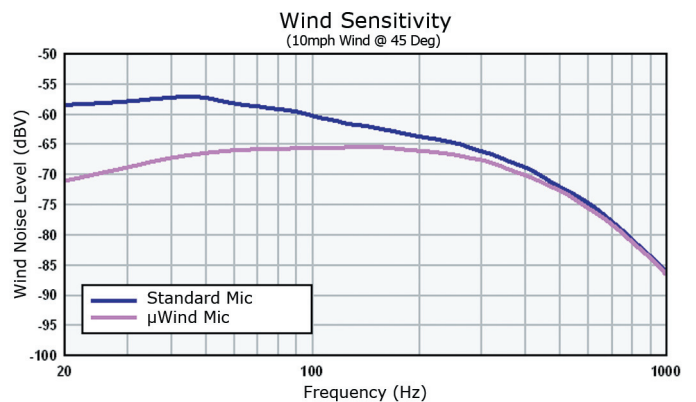
**μWIND™** - Excellent SNR  
- Resistant to wind noise

**μEMI™** - RF immunity  
- Total protection from GSM buzz

**μNOISE™** - Ultra high SNR  
- Crystal clear sound

## μWIND™

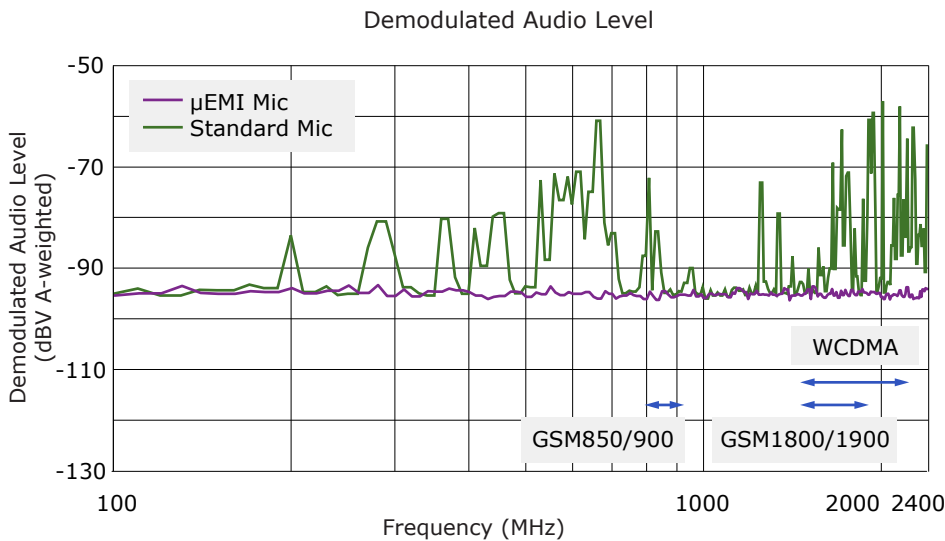
It's well known that microphones used in mobile products are susceptible to wind-induced noise pickup. To counter this problem, MWM has developed the proprietary μWind technology. μWind technology combats wind-induced noise at the microphone component level, reducing wind noise by up to 10dB over conventional microphone components. If you are designing a mobile product, make sure your microphone component is μWind enabled. Just another way MWM can help your product Sound Smarter®.





## μEMI™

Electromagnetic interference (EMI) can be very problematic for analog electronics, specifically at radio frequencies. Common high-powered digital devices can induce an audible buzz or hum into unprotected component microphones. This humming distorts, or worse, drowns out the actual audio signal.



To combat this known communication killer, MWM has engineered *μEMI* technology into the component microphone. Far more effective than the typical two parallel capacitors, our *μEMI* technology is a wideband EMI noise suppression circuit that is built into the microphone element and stops spurious RF energy from 100MHz to 4GHz. *μEMI* technology is available only on specific analog microphone models. To find out if *μEMI* technology can resolve your RF demodulation problems, contact MWM now.

## μNOISE™

The components inside today's telecom and mobile devices act as the communication killers. The microphone self-noise becomes the limiting factor in the clarity and quality of the voice input link. In communication devices where the sound source is at some distance from the microphone, the microphone noise floor is louder than the acoustic background noise. It becomes necessary to use microphones with high signal-to-noise ratio.

MWM has developed a proprietary approach to this problem with our patent-pending *μNoise* technology. *μNoise* technology takes typical component microphone SNR to near pro-audio levels. Compare these figures to any MEMS product on the market today, and you'll find that the numbers just don't add up for MEMS.

*μNoise* technology is also available in reflowable tape and reel SMD packages. If you need a high SNR mic, you need a *μNoise* enabled component from MWM.

Signal to Noise Ratio		
Mic Size	μNoise	Industry Standard
Ø 9.7mm	~ 80 dBA	~ 65 dBA
Ø 6mm	~ 67 dBA	~ 60 dBA
Ø 4mm	~ 65 dBA	~ 58 dBA

For 9.7mm elements, MWM's *μNoise* microphones achieve A-weighted SNR's of up to 80dB for a 94dB SPL input signal; 67dB for 6mm microphone elements; 65dB for 4mm elements.

