

The Enhanced Full-Rate (AMBE+2) P25 Vocoder

outperforms all other vocoders on P25 and SmartZone™ systems



BACKGROUND

Digital radios are known to have voice quality issues in noisy conditions or when using the radios while a vehicle is in motion. This is known as the 'vocoder problem'.

On March 17, 2004, Motorola produced a document that analyzed the test results of five different vocoders for review and consideration for approval by the P25 Steering Committee.

On October 14, 2005, the Project 25 Steering Committee passed a motion that adopted the Enhanced Full-Rate (AMBE+2) Vocoder.

THE TESTS

The operating conditions of the testing scenarios were chosen to be representative of those expected to be experienced in a land mobile radio environment.

The comparison is done in two experiments. The first experiment compares the vocoders with various channel conditions as might occur on a land mobile radio channel. The second experiment compares the vocoders with speech added to background noise as might be anticipated in public safety environments.



THE RESULTS

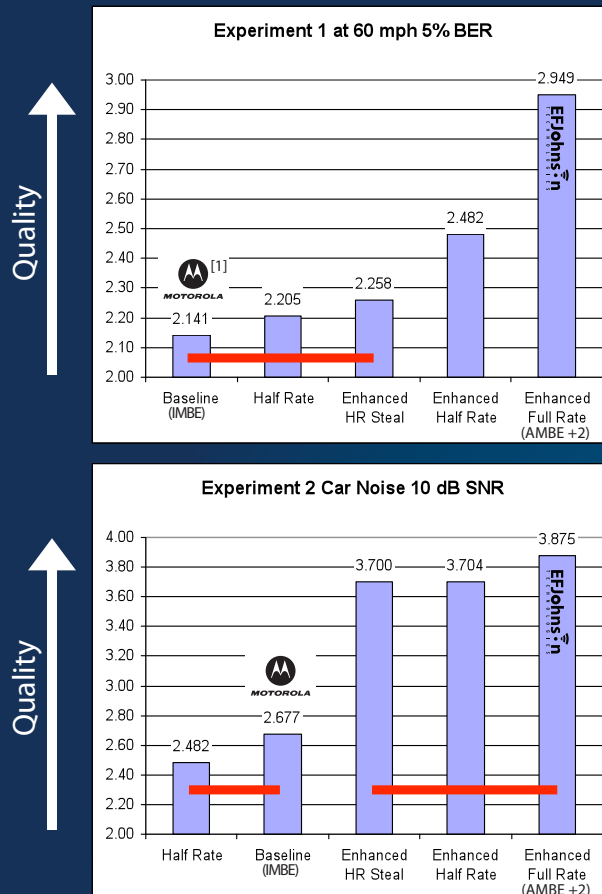
In every test conducted by the Institute of Telecommunication Sciences and analyzed by Motorola, the Enhanced Full-Rate (AMBE +2) Vocoder outperformed all other vocoders, including the "baseline" IMBE Vocoder.

According to Motorola, "The choice of a digital voice coder is important since it determines the speech quality performance of a communication system."



Every EFJohnson digital radio ships with the Enhanced Full-Rate (AMBE+2) P25 Vocoder

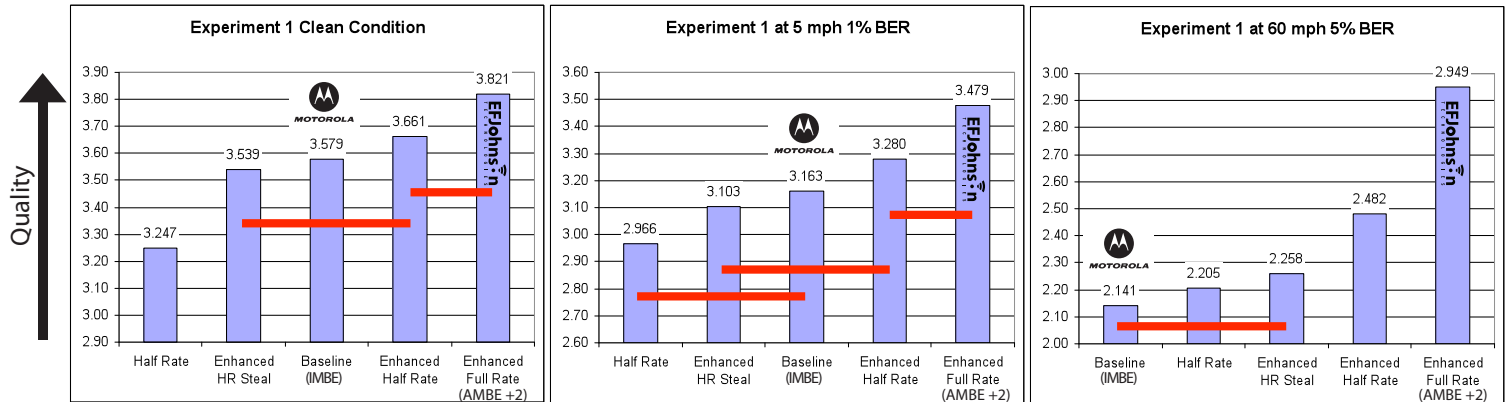
Test Results*



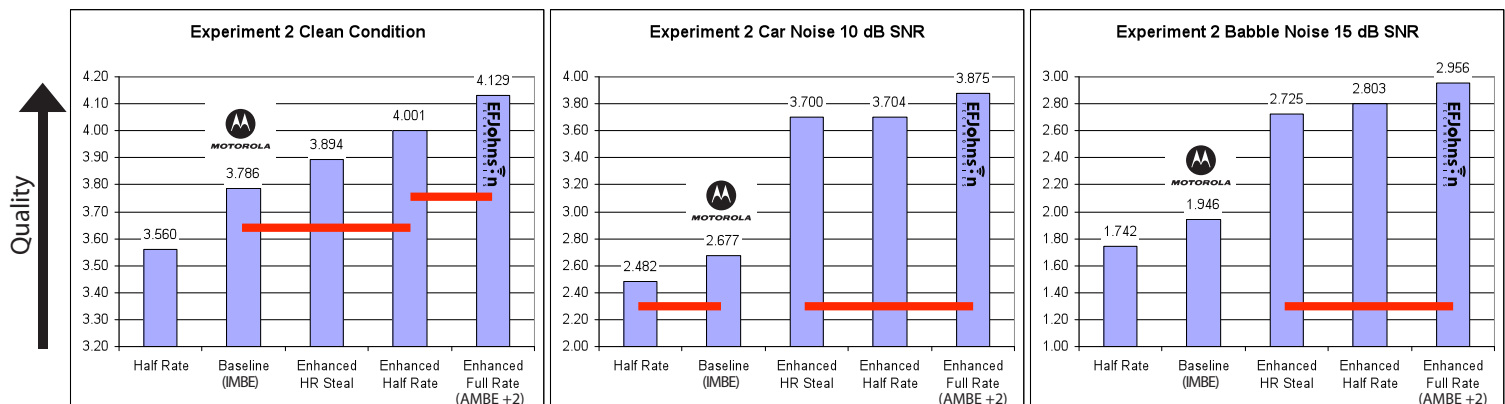
*complete results on reverse side [2]

Please contact Tammie Mischke, at tmischke@efjohnson.com for a full and complete copy of referenced document.

Test 1 Results



Test 2 Results



Reference: Wilson, A. - Motorola employee and author. (2004, March 17). Project 25 Vocoder Evaluation Mean Opinion Score Test. Distributed to the Vocoder Task Group of the TIA/APCO Project 25 Interface Committee.



The Enhanced Full-Rate (AMBE+2) P25 Vocoder

Critical for Firefighters: It reduces background noise in transmissions where high noise levels are present, ensuring your first responder's voice is heard clearly.

Important for Police Officers: It improves clarity of radio transmissions in high-speed car chases by reducing warbling.

June 2006: EFJohnson was the first public safety radio provider to implement the Enhanced Full-Rate Digital Vocoder (AMBE+2) as the standard vocoder in its full line of digital radios in all frequency bands.

What vocoder does your radio have inside?

Every EFJohnson digital radio ships with the Enhanced Full-Rate (AMBE+2) P25 Vocoder^[3]



^[1] MOTOROLA and the Stylized "M" Logo are registered trademarks of ©Motorola, Inc. 2008

^[2] Company logo placement on performance graphs represents vocoder type implemented in each company's radio

^[3] The Motorola XTS 5000, XTS 2500, XTS 1500, XTL 5000, XTL 2500 and XTL 1500 only have the IMBE Vocoder inside, not the AMBE+2 Vocoder