NatureDSP GSM AMR-NB codec

Overview

IntegrIT GSM AMR-NB – is a standard ACELP vocoder adapted by the 3rd Generation Partnership Project (3GPP). It is an Adaptive Multi Rate-Narrow Band (AMR-NB) speech codec. This vocoder is used mainly in 3rd generation mobile telephony devices to compress toll-quality speech at 8000 samples/second. GSM-AMR codec has eight basic bit rates, 12.2, 10.2, 7.95, 7.40, 6.70, 5.90, 5.15 and 4.75 kbit/sec.

Features

- eight coding rates in range of 4.75 to 12.2 kbit/sec
- sampling rate 8 kHz
- 16-bit linear signal input
- DTX1, DTX2 options supported
- full 3GPP TS 26.073 compliance
- demo available for target and PC

Applications

- VoIP
- Telephony
- Mobile Communication

Specifications

Algorithm	MIPS consumption		
	C64xx	ARM9e	ARM11
Encoder+Decoder, 4.75, no VAD	9,7	39	25
Encoder+Decoder, 12.2, DTX1	8,0	32	18

Bit exactness proved by ITE

GSM AMR-NB is delivered with fully automated IntegrIT Testing Environment (ITE) for target platform based on reference ITU-T vectors set along with extended IntegrIT proprietary vectors and methods.

Availability

This software package is available in binary/source code written on fully portable C-language for:
- Texas Instruments TMS320C64xx, DaVinci
- ARM9E,ARM11
- Marvell Sheeva/KirKwood/ARMADA
- Windows/Linux Object Library
- Porting on other platforms (Analog Devices, Freescale, etc.) is upon request.