Low-Latency HF Modem

Provides extremely low latency < 7 ms (Tx + Rx , including all filters).
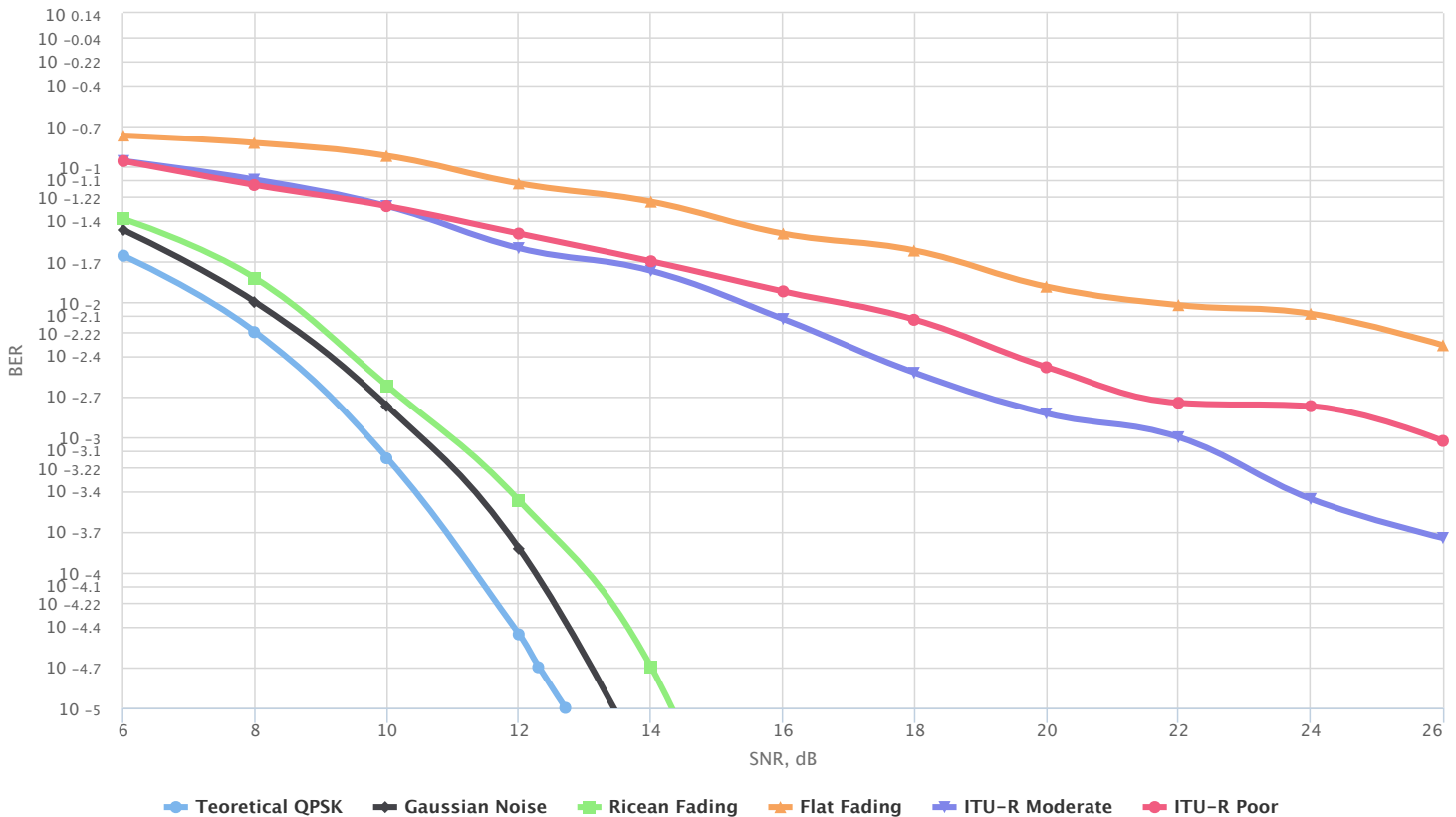
For the following applications:

- High Frequency Trading (HFT) link establishment
- Digital Voice over HF (in conjunction with robust vocoder)
- Other markets, where data transmission on HF with low delay is important

Features.

- low latency: < 7.0 ms, including both TX + RX parts and the shortened shaping filter and matched filters, excluding interleaver and FEC
- pilot symbol assistant modulation (PSAM) waveform: BPSK, QPSK, 8-PSK, 16-APSK (with low peak-to-average power ratio (PAPR))
- symbol rate: 2400 symbol/s; data rate: 1920 … 7680 bit/s
- maximum frequency offset: ±30 Hz
- efficient adaptive MMSE equalizer
- blind acquisition without preamble
- modem control via conventional AT-command set
- additional FEC with soft decisions can be established
- portable float-point C-code (MSVC, gcc, TI DSP compiler)
- practice approved (TI DSP C6748/OMAP L-138 platform)
- performance:

Low latency HF modem BER performance

Legend: Teoretical QPSK, Gaussian Noise, Ricean Fading, Flat Fading, ITU–R Moderate, ITU–R Poor

Guarantee And Support. DSPINI guarantees a quality and accordance of all technical characteristics of the product to requirement of current specifications. Testing and other method of quality control are used for guarantee support.

Any Platforms. DSPINI can port this modem software into any other DSP, RISC or general- purposes platform inshort time: 1-2 months.

Licensing Terms. To use the modem software, customer should obtain a license from DSPINI only.

Customization. The modem can be customized under any specific requirements- other bandwidth, latency, symbol rate and date rates, etc. Please contact with us for details.

Related Software. This modem may be effectively used in a bundle with other DSPINI's products:

- TWELP vocoders, including "robust" versions, for any bit rates from 300 bps up to 4800 bps and higher.
- Linear and acoustic echo cancellers,
- Noise cancellers and Speech Enhancers,
- Other products.

Downloads:

- Datasheet (pdf)
- TI DSP C6748/OMAP L-138 platform evaluation package (zip) — on request
- User's Guide document (pdf) — on request

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Please contact us by e-mail:
request@dspini.com
or by phone:
+44 20 81 33 00 44
+33 9 70 40 33 99

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