

## DVB-T2 Demodulator + Decoder LDPC/ BCH IP Core Available For Immediate Implementation From Global IP Core

**March 7, 2023 - Global IP Core Sales** - The new DVB-T2 demodulator is designed to be used together



with an RF tuner, and an analog to digital converter. The system has an internal state machine to control the operation, and can be externally configured via the SPI interface. This design is a DVB-T2 OFDM demodulator, supplied as a portable and synthesizable Verilog-2001 IP. QAM signal constellations are supported,

including QAM16, QAM64 and QAM256. QPSK, and BPSK are also supported. The operation of the demodulator is automated by a master finite state machine. The LDPC block and the BCH decoder deal with short frame and normal frame types. The LDPC decoder decodes iteratively following the minimum-sum algorithm. The BCH decoder can correct up to 12 bits, or 10 bits per code-word, depending on the frame type and coding rate. The other two BICM chains are used for signaling and parameter passing.

### Additional features include:

- DVB-T2 EN302 755 V1.2.1, Rev.9 compliant
- Supports IF input
- Single input – Single output (SISO)
- Sampling frequency offset (SFO) tracking and compensation
- Carrier frequency offset (CFO) detection and correction
- Flexible channel BW (1.7, 5, 6, 7, 8, and 10) MHz
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- Soft demodulation
- FFT size (1, 2, 4, 8, 16, and 32) K
- Coding rate (1/2, 3/5, 2/3, 3/4, 4/5, and 5/6)
- Short and long frames
- Layered Min-Sum LDPC decoder
- Parallel and Serial MPEG outputs

### Benefits:

The design interfaces to an external Analog to Digital converter, which receives the analog signal from the external tuner. The included carrier frequency offset (CFO) correction can compensate up to 500KHz for 8MHz channel bandwidth. The timing correction loop can correct mismatches as large as 50ppm depending on the FFT size and QAM constellation.

### Related IP Core Products:

- DVB-T

Please contact us for more information at [info@global-ipc.com](mailto:info@global-ipc.com) or check out our product portfolio at [www.global-ipc.com](http://www.global-ipc.com)

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