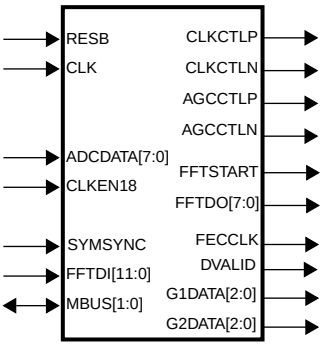
MC92308

Product Preview

OFDM Demodulator

The MC92308 is a Orthogonal Frequency Division Multiplex Demodulator for 2K transmission mode according to the ETSI specification for digital terrestrial broadcasting (PR ETS 300744). The MC92308 contains all the functionality required to demodulate the information transmitted in one UHF channel.



Feature Summary

- Usable for 8MHz/7MHz/6MHz channels by adjusting the clock rate
- Digital I/Q separation on-chip
- Supports QPSK, 16-QAM and 64-QAM
- Supports all guard interval lengths (1/32, 1/16, 1/8, 1/4)
- Accepts 8-bit TTL-compatible twos-complement data input
- Provides the required control signals for Automatic Gain Control and ADC clock frequency control
- Performs channel estimation and correction by using the embedded pilot carriers
- I^2C serial bus compatible interface (M-Bus) and parallel interface for external programming and control of the device
- Transmission Parameter Signalling is decoded and made available to the system controller via M-Bus or parallel microprocessor interface
- Companion to DVB compliant 2K-FFT Processor (MC92307)
- Output interface for DBV compliant FEC
- Fast synchronization at power-on and after channel switch
- Low implementation margin
- 0.5µ CMOS Process at 3.3V

Ordering Information	
Device	**Package**
MC92308CI	160MQUAD

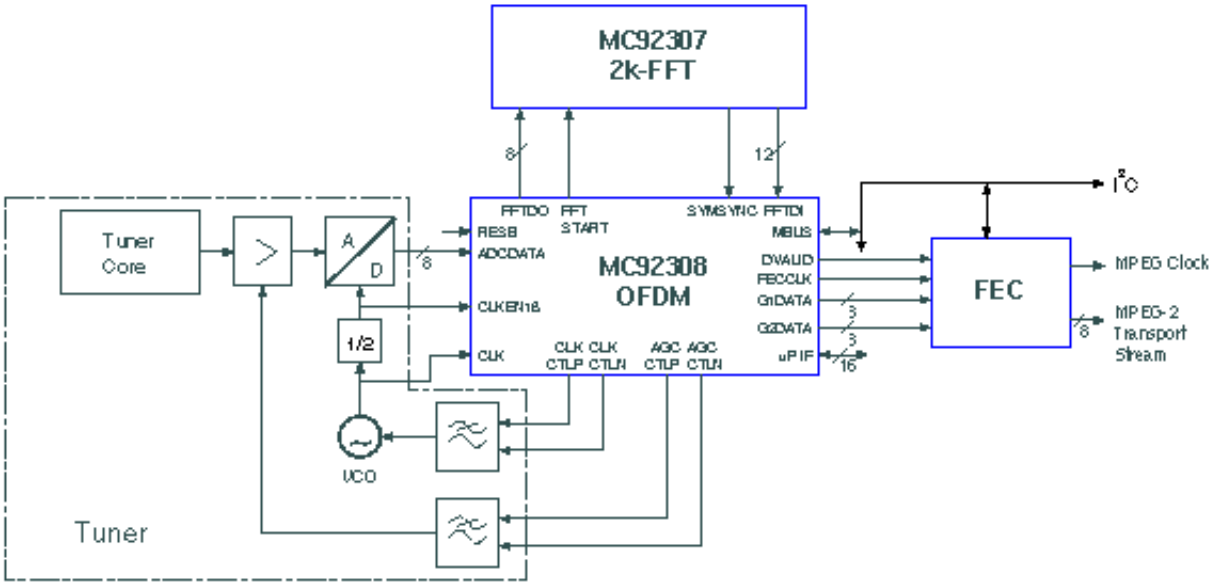


Figure 1. OFDM Frontend Processing

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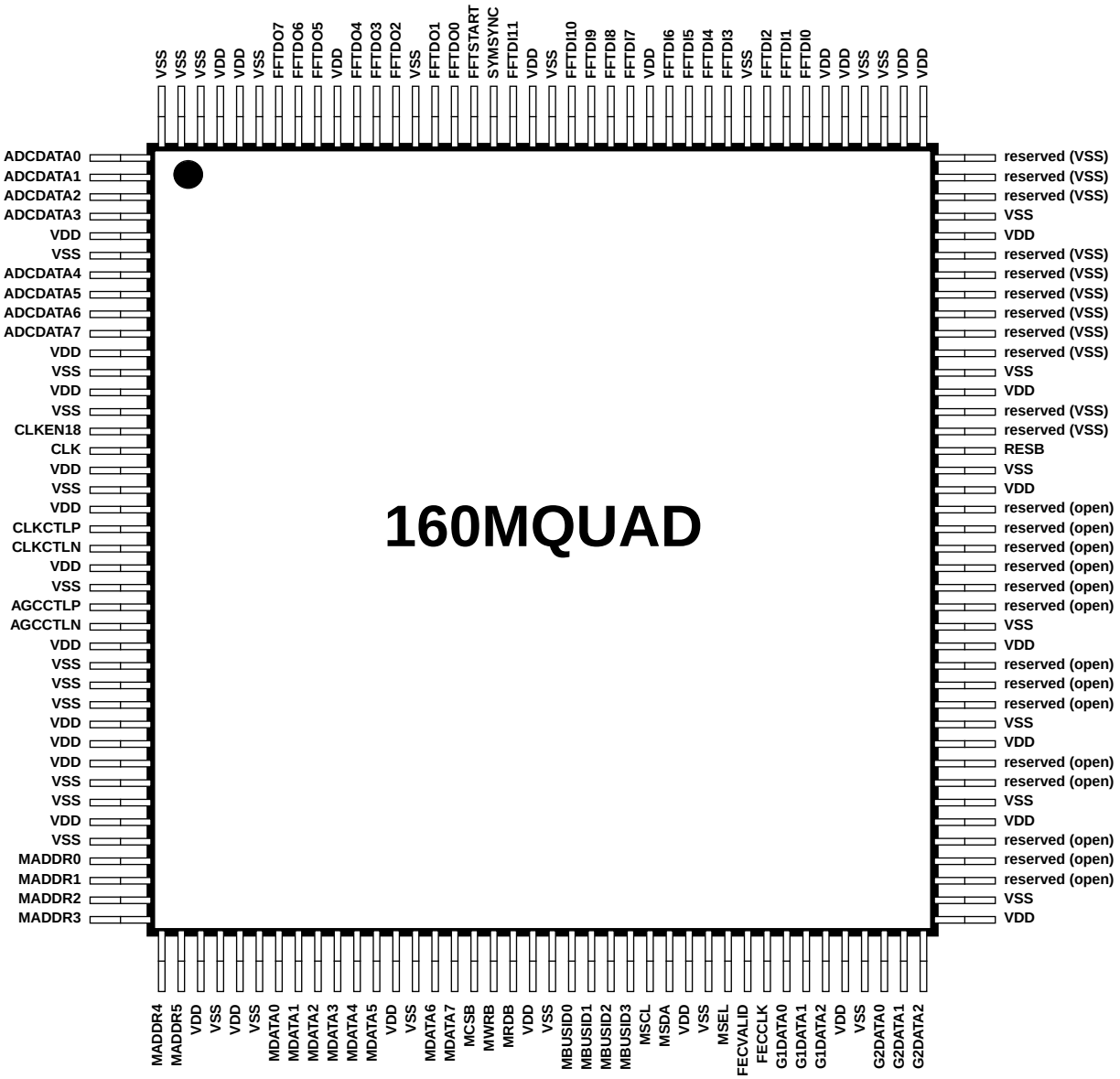


Table 1. MC92308 Pin Description

SIGNAL	FUNCTIONALITY	TYPE	POLTY
CLK	Common clock input (36.57 MHz)	TTL - IN	high
RESB	Reset (synchronous)	TTL - IN	low
CLKEN18	ADC data strobe	TTL - IN	high
ADCDATA[7:0]	Input for samples from ADC	TTL - IN	high
CLKCTLP	ADC clock synchronization loop (+)	TTL - OUT	high
CLKCTLN	ADC clock synchronization loop (-)	TTL - OUT	low
AGCCTLP	Analog AGC loop (+)	TTL - OUT	high
AGCCTLN	Analog AGC loop (-)	TTL - OUT	low
FFTSTART	FFT start signal	TTL - OUT	high
FFTDO[7:0]	Complex data output to FFT (muxed)	TTL - OUT	high

Table 1. MC92308 Pin Description (Continued)

SIGNAL	FUNCTIONALITY	TYPE	POLTY
FFTDI[11:0]	Complex data input from FFT (muxed)	TTL - IN	high
SYMSYNC	Symbol start signal from FFT	TTL - IN	high
G1DATA[2:0]	Data output for Viterbi decoder	TTL - OUT	high
G2DATA[2:0]	Data output for Viterbi decoder	TTL - OUT	high
FECCLK	Clock for Viterbi Decoder (free running)	TTL - OUT	high
FECDVALID	Data valid signal for Viterbi Decoder	TTL - OUT	high
MSDA	I^2C compatible control bus, data pin	TTL - OD	-
MSCL	I^2C compatible control bus, clock pin	TTL - IN	high
MBUSID[3:0]]	I^2C compatible control bus, variable ID selector	TTL - IN	high
MSEL	Enable Microprocessor parallel interface	TTL - IN	high
MDATA[7:0]	Microprocessor interface bidirectional databus	TTL - bidir	high
MADDR[5:0]	Microprocessor interface address bus	TTL - IN	high
MCSB	Microprocessor interface chip select	TTL - IN	low
MWRB	Microprocessor interface write enable	TTL - IN	low
MRDB	Microprocessor interface read enable	TTL - IN	low

Notes:

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