

APPLICATION NOTE 587

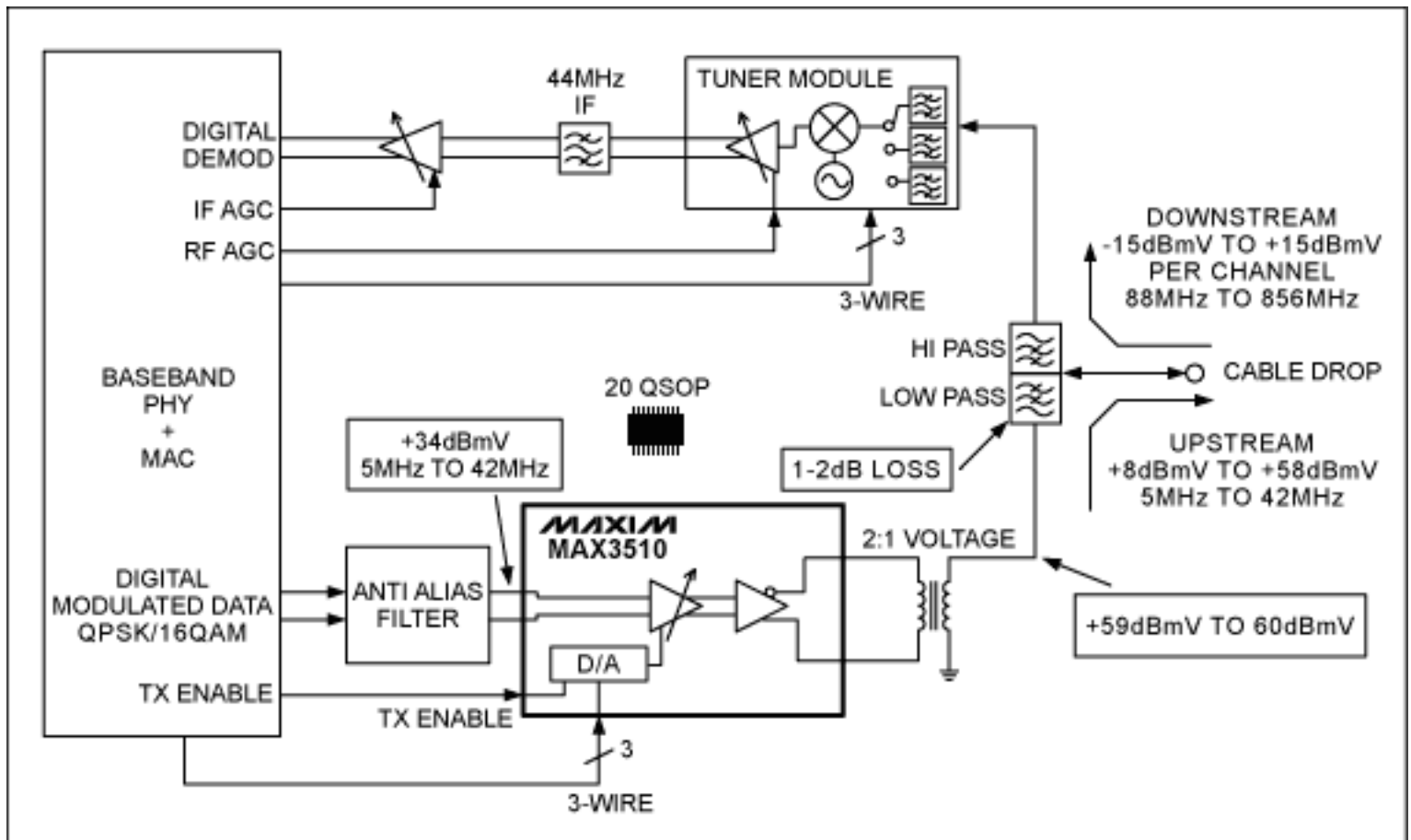
## Block Diagram for MAX3510 Upstream CATV Amplifier Application

*Abstract: Block diagram for MAX3510 upstream CATV amplifier application. Meets DOCSIS standards. Diagram shows transformer, tuner module, baseband IC, anti-alias filter and duplexer.*

The MAX3510 is a programmable power amplifier for use in CATV upstream applications. It was the first in the industry to meet DOCSIS standards. The following block diagram shows a typical application.

The MAX3510 modulates a 5-42MHz carrier signal, with typically better than -60dBc harmonics at 34dBmV. It outputs up to +64dBmV (continuous wave) through a 2:1 (voltage ratio) transformer. Operating over a frequency range of 5MHz to 65MHz, it features a variable-gain amplifier controlled by a 3-wire digital serial bus. Gain control is in 1dB steps.

The MAX3510 offers a transmit-disable mode, which places it in a high-isolation state for use between bursts in TDMA systems. In this mode, the output stage is disabled, minimizing output noise. When entering or leaving transmit-disable mode, transients are kept to 7mV nominal at full gain. In addition, supply current is reduced to 25mA.



DOCSIS cable modem

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MAX3510: [QuickView](#) -- [Full \(PDF\) Data Sheet](#) -- [Free Samples](#)

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