

Plan 9 is offering a Power Line Communications (PLC) Narrow Band (9-500kHz) Receiver IP block designed to operate over CENELEC-A-D, ARIB, G3 and FCC bands with outstanding sensitivity and MTPR (Multi-Tone Power Ratio) performance receiving OFDM signals.

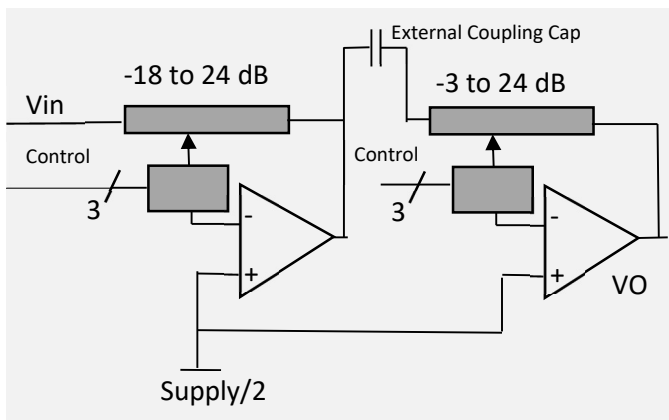
Applications include:

- All PLC related standards
- Smart power meter communications
- Smart House controls
- Industrial Internet of Things (IIOT)

Features of this IP Receiver:

- Large signal input range (18 Vpp)
- >500KHz Full Power Bandwidth
- Single ended Input and Output
- Power down mode w/ low idle current
- Programmable gain range: -21 to +48 dB
- 2 mA operating current
- 3.3V ±10% supply range
- IP cell area is less than 0.2 mm²

Block Diagram of Receiver

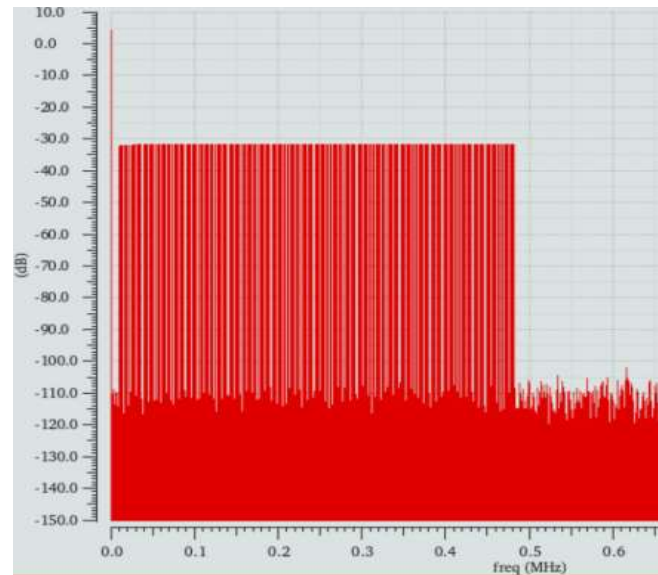


Performance:

Typical Simulation result of MTPR signal with over 200 tones producing peaks within 0.5 volts of VDD= 3.3V and ground, is shown below.

This measurement uses tones and empty bins evenly spaced. Intermodulation distortion collects in the empty bins and is compared to the signal, with both an average MTPR S/N and a worst-case bin calculation. All dB calculations are in Volts.

Each tone: -32dB, Worst bin MTPR: 74.75dB, Avg MTPR: 82dB



Availability:

Currently this IP has been fabricated on a Multi-Project Wafer (MPW) and is under evaluation.

A more detailed datasheet is available with a signed NDA.

Demonstration units can be made available with restrictions.

IP is available for license or for sale.