

Plan 9 is offering a Power Line Communications (PLC) Narrow Band (0-500kHz) 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.

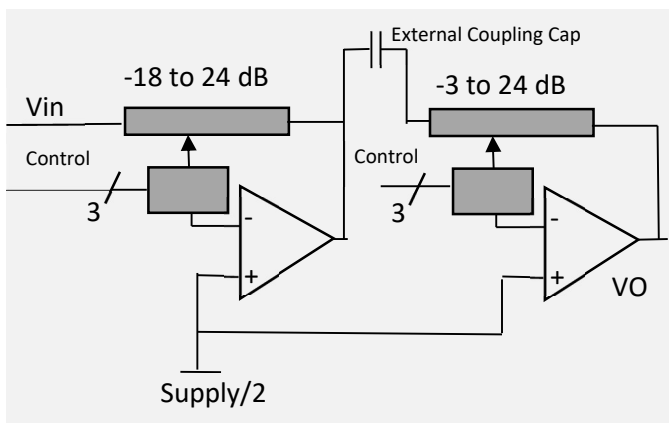
**Applications include:**

- All PLC related standards
- Smart power meter communications
- Smart House controls

**Features of this Receiver IP:**

- Large signal input range
- >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 idle current
- 3.3V ±10% supply range
- IP cell area is less than 0.3 mm<sup>2</sup>

**Block Diagram of Receiver**

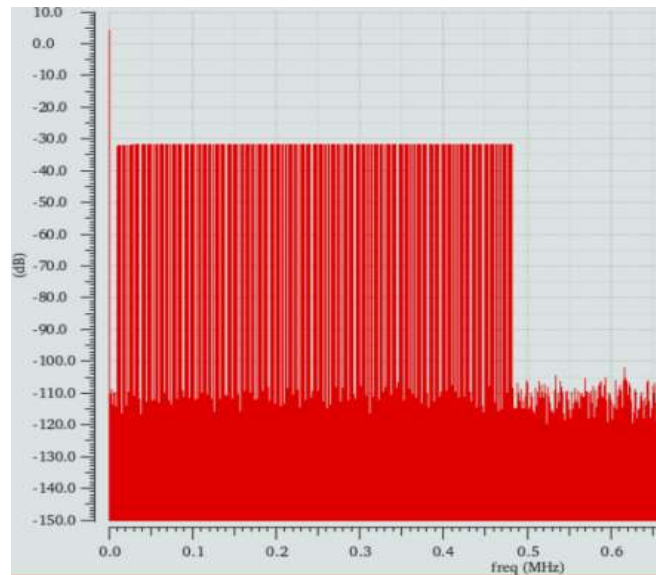


**Performance:**

Typical Simulation result of MTPR signal with over 200 tones producing peaks of 2.8V with VDD= 3.3V, 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 MTPR: 74.75dB, Avg MTPR: 82dB**



**Availability:**

Currently this IP is on a multi-project wafer run and will be out for evaluation in Q2, 2020.

A more detailed datasheet is being constructed and can be available with a signed NDA.

Once the chips are out and tested, demos can be made available with restrictions.

IP is available for license or for sale.