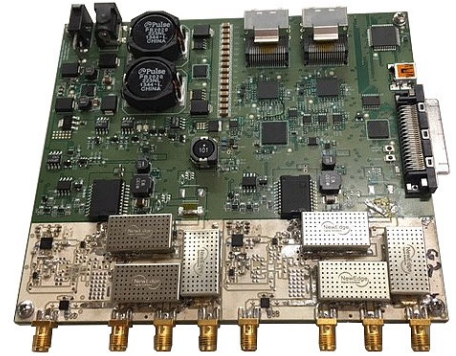


ETX108

Multi-Band, Multi-Mode RF X2 MIMO Front End Module

Introduction

The NewEdge Signal Solutions ETX108 is a Multi-Band, Multi-Mode X 2 MIMO Front End Module. The ETX108 includes a Broadband RF amplifier 1.8 to 2.7 GHz with 7 Watts of Average RF power per PA and 55 dB total gain. ETX108 also incorporates two Broadband Receive LNAs. Each PA may be operated using envelope tracking (ET) for use with amplitude modulated waveforms such as 4G (LTE) and 3G or with constant bias voltage to support constant envelope (CE) waveforms.

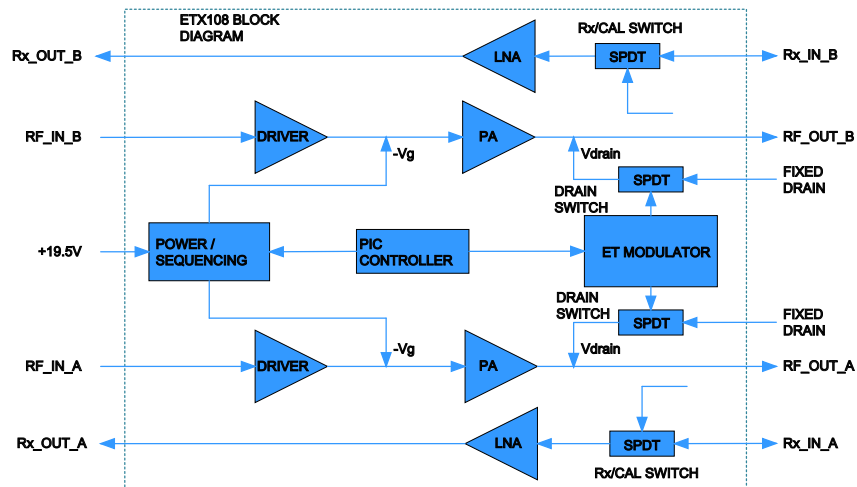


Features

- Compact size: 5.25" by 5.75"
- Turn-key operation with a single voltage rail (+19.5V)
 - JPD Series DC power connector, compatible with a laptop power supply
- High Efficiency: <40W consumed when both PAs are transmitting full power
 - Does not require airflow cooling due to low power consumption
- Multi-Mode: Power supply may be configured for ET or Constant Voltage operation
- High RF Power: 44 Watts Peak / 7W Average* Per PA (* 8 dB PAPR assumed)
- Frequency Domain Duplex (FDD) and Time Domain Duplex (TDD) LTE supported
 - Individual TDD controls for each RF channel
 - Low noise power amplifier shutdown using GaN Gate pinch-off
 - Transmit shutdown time <17 μ s (IAW 3GPP specification)
 - Onboard controls available for optimum T/R Switch control timing
- Broad RF Bandwidth: Tx = 1.8 to 2.7 GHz, Rx = 1.7 to 2.7 GHz
- Totally independent Mode control for each channel
- Complete PA: All gain stages, power sequencing and supplies included
- LNA Specs: Input P1dB = 1.5 dBm and Noise Figure <1dB
- Built-in Calibration feedback path for DPD implementation
- Peripheral equipment control interface (+3.3V logic) incorporated
- 3GPP (LTE) ACLR1 compliance met with simplified DPD firmware from NewEdge*
 - (* Firmware runs on industry standard transceiver / FPGA card)

Specifications

Parameter	Requirement	Comment
Band of Operation	1.8 – 2.7 GHz Transmit	
FDD & TDD Modes	1.7 – 2.7 GHz Receive	
Output Power, ET Mode	44 Watts peak, 7 Watts average	8 dB PAPR
Output Power, CE Mode	7 Watts	
Tx Dynamic Range	-10 dBm to +10 dBm (low sensitivity) -20 dBm to 0 dBm (high sensitivity)	Dynamic Range Control Input
EVM	Additive EVM <1% after DPD	
Supported Carrier Bandwidth	3, 5, 10, 15, 20 MHz 40 MHz	Envelope Tracking Mode With DPD
DCin –RF Efficiency	Better than 35% across 1.8 – 2.7 GHz	CE or ET Mode
Operational Temperature Range	-40°C to +85°C	



Disclaimer

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