Model: MMP4T4R
Mixed Mode TRX &Processing Board
Product Type: TRX and Processing Board

Part No.:
MMP4T4RR02

Application:
Cellular RAN Module, Distributed Base Stations, Small Cells

Description:
The Mixed Mode TRX & Processing Board is a compact, high-performance SDR-based module engineered for multi-standard wireless access networks.
It integrates advanced software-defined radio (SDR) processing with a wideband RF transceiver subsystem to support both LTE and GSM air interfaces within a unified hardware platform.
As the core signal-processing element within radio units, the board manages RF transmission, reception, digital up/down conversion, modulation, demodulation, and baseband interfacing with high stability and accuracy.
The MMP4T4R configuration enables 4T4R operation and is fully aligned with 3GPP specifications for LTE and GSM.

Key Features
- Integrated SDR baseband processing and wideband RF transceiver
- Multi-standard support: LTE + GSM
- Multi-band, multi-carrier RF capability
- High-resolution DUC/DDC, digital filtering, and modulation processing
- Compatible with external DPD/CFR when paired with a PA module
- Precision timing, synchronization, and local oscillator generation
- Real-time digital and analog signal processing framework
- On-board monitoring for voltage, temperature, and RF performance
- Compact mechanical format optimized for radio units and outdoor radio enclosures
- Designed for extended temperature environments (–40°C to +85°C)

Functional Architecture

SDR Processing Section
- Digital up/down conversion
- Signal modulation/demodulation (LTE+GSM)
- DPD/CFR algorithms
- High-speed interfaces (CPRI)

Mechanical Specifications

Parameter	Symbol	Typical	Unit	Remarks
Input Voltage	VDC	28	V	Telecom standard
Control Interface	—	CAN / I²C / SPI / Ethernet	—	Telecom standard

Mechanical Specifications

Parameter	Specification
Form Factor	Integrated board module
Weight	500 g
Cooling	Conductive to chassis (baseplate or fins)
Mounting Method	Direct to RAN Unit chassis (screw or press-fit)
Housing Material	Aluminum alloy with EMC shielding
Surface Finish	Anodized / Chromate / Conductive coating

Environmental Characteristics

Parameter	Condition	Value
Operating Temperature	—	–40 °C to +85 °C
Storage Temperature	—	–55 °C to +100 °C
Humidity	Non-condensing	≤ 95% RH
Ingress Protection	—	IP65 (with enclosure)
Vibration	IEC 60068-2-6	Telecom-grade
MTBF	—	> 100,000 h