

Micro-Transcoder™ / 10-Channel GPS Simulator, 0.97 x 0.97 inches



- **Real-Time NMEA to GPS-encoding**
- **Add Assured-PNT to legacy GPS**
- **10 channels GPS L1 C/A RF-output**
- **Also works as a GPS simulator**
- **3.3V, 0.95W power**
- **PRELIMINARY SPECIFICATION**

TYPICAL ELECTRICAL SPECIFICATIONS:

Module Specification:	
Applications:	<ul style="list-style-type: none"> • Retrofitting legacy GPS systems with SAASM, M-Code, CSAC-Holdover, Glonass, Galileo, BeiDou, Iridium-STL, or Inertial Navigation System • 10-channel GPS simulation for manufacturing of GPS receivers, especially timing-related GPS • Low-Cost general-purpose Laboratory GPS-Simulation for R&D
Features:	<ul style="list-style-type: none"> • Generates a GPS L1-C/A code RF-output as if the signal were coming from a Live-Sky GPS antenna. Full-constellation GPS RF output • Compatible to SAASM receivers (L-3, Rockwell Collins, and others) and Iridium-STL receivers • Low-latency NMEA position to GPS RF-Output encoding (<100ms) • Add INS capability to existing GPS legacy equipment • Encodes time with nanosecond accuracy for GPS Timing Receivers • 10MHz and 1PPS output, as well as 1PPS external ref. timing input • Built-In high-stability TCXO • Powered by 3.3V, 0.95W typical • Built-in GNSS receiver for monitoring RF output quality and accuracy • Glueless connection to Rockwell Collins RSR SAASM GPS Puck, and u-Blox GNSS receivers as the PNT reference via COM2 serial port • Fully controllable via SCPI commands • Connects gluelessly to external GNSS receiver or PNT source • Plug-and-Play: just plug in power, and the module will start the simulation and RF-output by itself
Data/Power connectors	Standard DIP 100mil footprint, can be soldered or socketed into customer PCB
Built-in GNSS monitoring receiver	72 channel gen-8 GNSS receiver
Outputs	One 3.3V CMOS 1PPS output, one 10MHz CMOS 3.3V output, disciplined by external 1PPS reference, One RF GPS L1 C/A code, -105dBm to -128dBm
Spectral Purity (1MHz to 13.2GHz)	< -30dBc in-band (L1, +/-20MHz), < -70dBm out-of-band
Harmonics of L1 (1.57542GHz)	< -140dBm
Serial Control	SCPI-99 Control at 9.6K, 19.2K, 38.4K, 57.6K, 115.2K
External GNSS receiver compatibility	Any NMEA compatible source, direct control of Rockwell Collins GB-GRAM and MicroGRAM SAASM GPS, and u-Blox GNSS receivers, supports Satelles/Iridium-STL receivers
SCPI Control/Monitoring Port	Compatible to any terminal program, SimCon, and GPSCon, NMEA output sentences
Operating Temperature	-40°C to +75°C
MTBF	> 600,000 Hours

Micro-Transcoder™ Module PN: 1005220, eval board PN: 1005250 - MADE IN USA



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