Zeli Systems
SATPAK-MG
Carrier for the Rockwell Collins
MicroGRAM GPS Receiver with SAASM

Features:
- The SATPAK-MG is a small 1.25” x 1.25” carrier board that provides a convenient interface for the Rockwell Collins MicroGRAM GPS Receiver. The MicroGRAM GPS receiver incorporates a Selective Availability Anti-Spoofing Module (SAASM) and measures 1.00” x 1.25” x 0.268”.
- Option A of the SATPAK-MG is designed to connect directly to a mating connector on a host printed circuit board (PCB). This option utilizes two stand-offs that are soldered to the carrier board to mechanically stabilize the carrier/MicroGRAM assembly to the host PCB.
- Option B of the SATPAK-MG is designed for stand-alone mounting applications to a panel or plate within an enclosure. This option also utilizes two stand-offs that are soldered to the carrier board to mechanically stabilize the carrier/MicroGRAM assembly to a panel or plate.
- Both Option A and Option B utilize a single 30-contact interface connector to provide power, communication, key load, and time pulse signals to the MicroGRAM GPS Receiver.
- The 30-contact interface connector for Option B is mounted on the opposite side of the PCB than used in Option A.
- Cable assemblies to interface with the 30-contact connector used in Option B may be obtained from Zeli Systems.
- The Rockwell Collins MicroGRAM is soldered directly to the SATPAK-MG carrier PCB.
- Two independent COM ports provided at RS-232 or CMOS signal levels (user selected) for both options.
- Same serial interface as MPE-S predecessor.
- DS-101(RS-232) or DS102 keyload.
- 1 pulse per second input.
- 1 pulse per second output.
- Antenna connection is direct to the MicroGRAM GPS Receiver.
- Zeli Systems possesses the required authority to handle SAASM-based GPS receivers and keying material.
- Development kits available for both options.

SATPAK-MG Function:
The SATPAK-MG is a PCB carrier board that provides a convenient interface for the Rockwell Collins MicroGRAM GPS Receiver. The MicroGRAM contains a Selective Availability Anti-Spoofing Module (SAASM).

Communicating with the Rockwell Collins SATPAK-MG:
The MicroGRAM utilizes two independent serial ports at CMOS levels for communication. The SATPAK-MG provides CMOS to RS-232 level translation for each communication channel. A jumper on the SATPAK-MG allows the user to select CMOS or RS-232 signal levels for each channel.

Time Interface Signals:
The MicroGRAM generates a 1 pulse per second (1PPS) output at CMOS levels that the SATPAK-MG provides on the interface connector. The MicroGRAM also supports a 1PPS input that is available on the SATPAK-MG interface connector.

Key Loading and Zeroize:
The MicroGRAM uses DS-101 and DS-102 keyload signals at CMOS levels. The SATPAK-MG provides CMOS to RS232 level conversion for the DS101 signals. The SATPAK-MG also provides signal level conversion for the DS-102 keyload signals.

Power:
The SATPAK-MG/MicroGRAM combination can operate from a 3.3 VDC or 5.0 VDC power source. The auxiliary voltage to the MicroGRAM is input via the SATPAK-MG interface connector.
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SATPAK-MG
SPECIFICATIONS

Mechanical, Environmental, Power:

Physical Dimensions: 1.25” x 1.25” x 0.59”
1.25” x 1.25” x 0.465” (*) optional
Operating Temp: -40°C to 85°C
Power: 3.3 V dc, < 0.6 W typical (with MicroGRAM)

Connectors:
RF IN: Located on MicroGRAM
Conn: AMC RF Jack - A-1JB
Type: Coaxial

Interface Connector: J1
Conn: Samtec TFM-115-01-L-D
Type: Straight, 30 contact, dual row

Interface Cables for Option B:
Cable PN 9811007: Straight termination to mate with J1
Type: Straight, 30 contact, dual row, 18” length
Cable PN 9811017: Right Angle termination to mate with J1
Type: Right Angle, 30 contact, dual row, 18” length

Ordering Information:
Part Number 9811xxx:
SATPAK-MG-OPTIONA-CMOS-5VDC:
(Configured for direct connection to host PCB with CMOS communication and 5.0 VDC Power Input)
Part Number 9811xx1:
SATPAK-MG-OPTIONA-RS232-5VDC:
(Configured for direct connection to host PCB with RS232 communication and 5.0 VDC Power Input)
Part Number 9811xx2:
SATPAK-MG-OPTIONA-CMOS-3.3VDC:
(Configured for direct connection to host PCB with CMOS communication and 3.3 VDC Power Input)
Part Number 9811xx3:
SATPAK-MG-OPTIONB-RS232-3.3VDC:
(Configured for direct connection to host PCB with RS232 communication and 3.3 VDC Power Input)
Part Number 9811xx4:
SATPAK-MG-OPTIONB-RS232-5.0VDC:
(Configured for stand-alone operation with RS232 communication and 5.0 VDC Power Input)
Part Number 9811xx5:
SATPAK-MG-OPTIONB-DEV:
(Configured for stand-alone operation with RS232 communication and 3.3 VDC Power Input)
Part Number 9811xx6:
SATPAK-MG-OPTIONA-DEV:
(Option A development Kit with manual, and RF cable)
Part Number 9811xx7:
SATPAK-MG-OPTIONB-DEV:
(Option B development Kit with manual, RF cable, and J1 interface cable)

Call Zeli Systems for custom design requirements

* Optional height specification requires different connector and stand-offs.