

RR024

The RR024 is designed for Radar Electronic Support (RES) and Radar Warning Receiver (RWR) applications where high performance and small size and are of prime importance, with filtering, amplification, detection and pulse parameter measurement being combined into one multi-function unit.

Four amplitude measurement channels allow direction finding by amplitude comparison between adjacent antennas. An IFM, fed from one of the amplitude channels via an SPDT switch, performs 14 bits of frequency measurement on the selected input. Frequency resolution is nominally 1 MHz over a 2 to 18 GHz band.

The RR024 is internally triggered and generates a full PDW giving the following data; Time of arrival, pulse amplitudes, pulse frequency, pulse width, and flags for POP, CW and Bad Data. The standard data interface is USB2 via MDM connector, which also includes Analogue PRI Audio lines. An optional 50MHz clocked 16-bit parallel interface is available via a separate optional 37 way MDM connector.

The compact form factor eases the integration burden on UAV and AFV payloads in particular and the low power consumption eases demand on platform payload power supplies.

RF connections are made by SMA, DC Power and USB2 are via 25 way MDM, and parallel data uses an optional separate 37 way MDM connector. An external 50 MHz clock input can be selected to operate the time of arrival (TOA) counter (shared clock source for the parallel data output PDWs), hence the PDWs generated will have fully correlated TOA digits.

| Parameter | Specification |
|--|---|
| Operating frequency | 2 to 18GHz |
| Instantaneous bandwidth | 16GHz |
| Receiver sensitivity | -57dBm (at the Rx input port) |
| Instantaneous dynamic range | 60dB |
| Types of detected signal | Pulse (50ns – 650us), Continuous Wave |
| Signal parameter measurement | Pulse width (PW), Pulse Amplitude (PA), Frequency (RF), Time Of Arrival (TOA) |
| Shadow time / Recovery | 300ns max, <150ns typ |
| Frequency resolution | 1MHz (nom), 14 bits |
| Frequency accuracy | 4.5MHz RMS |
| Pulse width & time of arrival resolution | 10 nsec |
| RF pulse density | >1 Mpps |
| Microwave input connectors | SMA Female |
| Power and control | 25 & 37 way MDM (TBC) |
| Supply voltage | 9 to 36 VDC |
| Power dissipation (operating) | <40W nom |
| Weight | 2kg |
| Dimensions (excl. interconnects) | 160mm x 160mm x 50mm (excluding connectors) |

FEATURES

- Frequency range 2-18GHz
- 1MHz frequency resolution
- Pulse descriptor word output
- Sensitivity –60dBm typical
- Analogue PRI Audio

APPLICATIONS

- Radar Electronic Surveillance systems
- Radar Warning systems

