

TESTEM RDW

- FM telemetry diversity receiver -

e.g. for applications in telemetry and data link systems, avionics and marine

- wide frequency range: VHF, P band and UHF versions available
- fully programmable via serial Interface
- industrial temperature range
- ruggedized for harsh environments
- 10th order base band filter programmable
- baseband response may include DC
- software controlled smart diversity combiner generates soft transition between the two channels and improves the S/N up to 3 dB
- high sensitivity
- high dynamic range
- altitude unlimited
- different data output
- 10 to 36 V DC isolated power supply

SPECIFICATIONS:

GENERAL

Description FM telemetry diversity receiver
Device type RDW

RF SECTION

Frequency range (version V) 220 ... 400 MHz
Frequency range (version U) 380 ... 480 MHz
Frequency range (version K) 100 ... 200 MHz
Synthesizer step width 25 kHz (12.5 kHz Vers.S)
Antenna impedance 50 Ω
VSWR 2:1 (maximum)
Reference oscillator stability 5 ppm (1 ppm typical)
Noise figure ≤ 6 dB (4 dB typical)
Image & spurious rejection ≥ 70 dB (minimum)
Local oscillator radiation -57dBm (max.)@ 0-1GHz
-47dBm (max.)@ >1-4GHz

MODULATION

FM deviation (version H) ± 50 kHz to ± 500 kHz
FM deviation (version M) ± 10 kHz to ± 100 kHz
FM deviation (version N) ± 2 kHz to ± 10 kHz
FM deviation (version S) ± 2 kHz to ± 3 kHz
Frequency response (vers.H) 500 kHz (-0.5 dB)
Frequency response (vers.M) 160 kHz (-0.5 dB)
Frequency response (vers.N) 10 kHz (-0.5 dB)
Frequency response (vers.S) 2.5 kHz (-0.5 dB)
low-end frequ. response (vers. A) 1 Hz (-1 dB)
low-end frequ. response (vers.D) DC

SYSTEM CHARACTERISTICS

Tuning method PLL synthesizer
Temperature compensation digital
Isolation isolated power supply inp.

OUTPUTS

Digital modulation output TTL / RS422
Analog output (differential) 1 – 10 Vpp (programmable)
Analog output (single ended) 0.5 – 5 Vpp (programmable)
Status output H = ok, L = warning/error
Field strength output (RSSI) 50mV/dB(-100dBm=1.5V)
Analog output impedance 50 Ω
Modulation sense polarity programmable



INPUTS

Multi function I/O default = ON / STANDBY

POWER SUPPLY

Supply voltage 10 ... 36.0 V DC (isolated)
Supply current 400 mA @ 12V
190 mA @ 28V
Reverse polarity protection max. 47 V DC (no time limit)

ESD PROTECTION

Peak voltage (IEC 1000-4-2) ±8 kV (contact discharge)
Peak voltage (MIL 833-3015.7) ±15 kV
Peak current (Supply Voltage) 100 A (8/20μs)
Peak current (all other I/O pins) 20 A (8/20μs)

ENVIRONMENTAL

Operating temperature -40 °C ... +85 °C (case temp.)
Humidity 95% RH
Altitude unlimited
Vibration (random) 0.1 g²/Hz (20Hz-2kHz)
Vibration (sine) 20g (20Hz-2kHz)
Shock (½ sine) 100 g peak (11ms)

PHYSICAL CHARACTERISTICS

Dimensions(exclusive connectors) 140 x 80 x 20 mm
Supply/signal connector DSUB-15-HighDensity male
AMP AMLIMITE HD-20
Antenna connector 2 x SMA female,
optionally 2 x BNC/TNC

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