SPARTANT

3GHz RF Signal Source Specifications
Model: RSS-3000

Key Features:

- Wide tuning range: 25 to 3000 MHz, 1 Hz steps
- Universal interface and power via USB
- High power out with automatic level control
- Compact size: 0.90" H x 2.82" W x 3.88" D

RF Performance

Frequency Range	25 to 3000 MHz
Frequency Step Size	1 Hz
Output Type	Continuous wave
Output Maximum Amplitude	25MHz – 3GHz: +13dBm
Output Range	-27dBm to +13dBm , 0.1dB steps (output level set in dBm) [+/- 1db]
Internal Reference	• 40MHz • +/- 0.5ppm over temperature • +/- 1ppm first year aging (+/- 5ppm maximum total over 20 year life)

Phase Noise (Maximum)	Frequency	1kHz Offset	10kHz Offset	100kHz Offset
	25-250MHz	-98 dBc	-106 dBc	-112 dBc
	250-1000MHz	-92	-96	-106
	1000-3000MHz	-83	-94	-101

Spurious	• Maximum: < -50dBc • Typical < -70dBc
Harmonics	• Maximum: -20dBc at +13dBm out
Tune Time	Start-up initialization time (from power on to RF out): 1.25 seconds Frequency to frequency change time: 35mS
RF Output Connector	SMA female
Reference Connector	• SMA female • Software controlled input/output • 40MHz output • 10-70MHz input reference (software programmable frequency)

Power

Power Input	3.5mm OD x 1.35mm ID coaxial power jack • 6-30VDC In • 300mA at 9V • Center positive • Mating connector: Manufacturer: CUI; P/N: PP3-002D USB (Mini B Female) • <500mA
Power Selection	Automatic switching • Coaxial power jack selected by default • Allows USB interface connection to unpowered hub with coaxial power input • USB power used when coaxial power not present

Interface

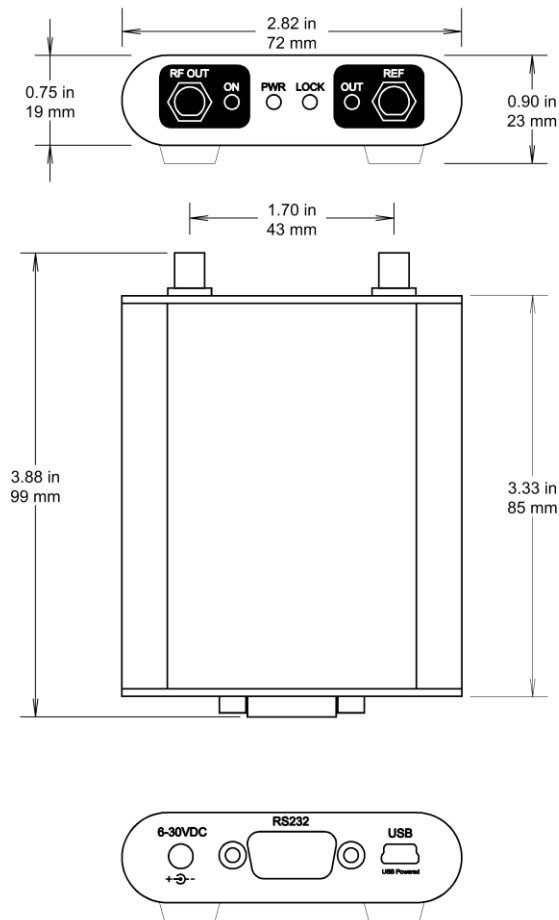|	
Control Electrical Interface	USB • Virtual COM port RS232 • 9-pin male D-sub connector • 9.6, 19.2, 38.4, 57.6, 115.2 (default) kbps, software selectable
Control Interface Selection	Automatic Switching • USB interface selected when connected (senses 5V power) • RS232 interface selected when USB not connected
Output Modes	• On, Off, On/Off via external trigger
External Trigger	Pin 4 of D-sub connector USB interface selected: • 0-3.3V logic levels RS232 interface selected: • RS232 +/- levels, can be controlled through software DTR control
Status Indicators	• Power /Command • Synthesizer Lock • RF Output • Reference Out • Low Voltage (all LEDs flashing)
Control Data Interface	• ASCII text

PC User Interfaces	• Third-party terminal application (e.g. HyperTerm)
	   • ASCII commands
	• PC application (Windows XP, Win 7)
	   • Adjust frequency and output level
	   • Set power-on defaults
	   • Frequency Sweep, programmable up/down
	      o Sweep dwell mode: user defined time per step
	      o Sweep duration mode: user defined total sweep time
	   • Identify connected units

Internal Memory	• Nonvolatile, automatically stores most recent settings

Mechanical

Dimensions	0.90" (23mm) H x 2.82" (72mm) W x 3.88" (99mm) D
Weight	< 300g
Material	• Aluminum extrusion • Aluminum endplates with black legend • Rubber feet

Environmental

Operating Temp Range	-20⁰C to +70⁰C Note: Maximum output power is reduced to +5dBm above 50C
Storage Temp Range	-40⁰C to +85⁰C

Warranty: 1 year. Designed and manufactured in the USA. Custom designs are available.

All specifications are subject to change without notice.

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