



## DRT4041- Wideband Exciter Unit

*Signal Transmission for Software Defined Radio*

### DESCRIPTION

The DRT4041, a member of the DRT4001 Software Defined Radio (SDR) family, translates a 30-MHz wide, 14-bit digital IF to an output frequency centered anywhere from 35 to 2985 MHz. Multiple 4041 unit outputs can be daisy-chained to provide additional transmit capability to a single antenna or external power amplifier. It can switch from one center frequency to another in as little as 1.1 milliseconds and has an output level up to +20dBm. The 4041 unit occupies a single 3U-size CompactPCI slot.

- 20 MHz to 3 GHz frequency coverage.
- Controlled via standard 32-bit CompactPCI interface.
- Multiple exciters can be ganged together to perform a variety of communication applications.
- Single-wide 3U CompactPCI form factor and control interface.
- Wideband architecture allows for multiple channels to be simultaneously transmitted.
- Wide range of tuning for arbitrary re-configuration and application flexibility for supporting a Software Defined Radio (SDR) system.

## SPECIFICATIONS

### *Digital IF Input*

- **Bandwidth** 30 MHz
- **Resolution** 14 Bits
- **Sample Rate** 70 Msps

### *RF Output*

- **RF Output Frequency Range:** 20 to 3000 MHz
- **Final IF Bandwidth** 30 MHz
- **Output Power Level** 30 to +15 dBm, (Power Amp bypassed)  
-20 to +25 dBm (Power Amp selected)
- **Power Level Resolution:** 0.5 dB

### *Performance*

- **Generated Spurious** -70 dBc max
- **Group Delay** 1.5 uSec
- **Two-tone SFDR** > 60 dB
- **Output 2nd-Order Intercept Point, OIP2** +40 dBm (PA bypassed)  
+45 dBm (PA selected)
- **Output 3rd-Order Intercept Point, OIP3** +27 dBm (PA bypassed)  
+33 dBm (PA selected)
- **Integrated Double-Sideband noise:** 100 Hz to 5 kHz, = -40 dBc maximum

### *Physical*

- **Operating Temperature Range** 0 to +50°C (+32 to +122°F)
- **Size** Single-slot 3U CompactPCI  
(approximately 2 cm wide x 10.16 cm high x 15.24 cm deep/0.8" wide x 4" high x 6" deep)
- **Weight** 1.4 lbs. (635.03 g)
- **Power Consumption** 21 watts maximum

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