

C-RD20-01/02

Wideband RF Driver Module

Centre for Development of Telematics (C-DOT)



DC–15 GHz
BANDWIDTH

8 V_{pp}
OUTPUT SWING

Upto 30dB
VARIABLE GAIN

15/15 ps
RISE / FALL TIME

4.5 dB
NOISE FIGURE

12 V
SINGLE SUPPLY

PRODUCT OVERVIEW

The C-RD20-01/02 is a high-performance Wideband RF Driver Module built around a precision GaAs/InP RF amplifier chain, covering DC to 15 GHz with up to 8 V_{pp} output swing and 30 dB gain. Designed for electro-optic modulation, quantum photonics, and high-speed test & measurement, it offers ultra-low additive jitter (0.6 ps RMS), RS-232/UART serial control, and a single 12 V supply — available in single-channel (C-RD20-01) and dual-channel (C-RD20-02) variants.

KEY FEATURES & BENEFITS

- ◆ DC–15 GHz Bandwidth
- ◆ High Output Swing
- ◆ Upto 30 dB Variable Gain
- ◆ Ultra-Low Jitter
- ◆ Fast Rise/Fall Time
- ◆ Dual-Channel Option
- ◆ RS-232 / UART Control
- ◆ Single 12 V Supply

TECHNICAL SPECIFICATIONS

Upper Cut-off Frequency	DC – 15 GHz
Output Voltage Swing	3.5 – 8 V _{pp}
Gain	up to 30 dB
Saturated Output Power	29 dBm (typ)
Rise / Fall Time	15/15 ps (typ)
Additive Jitter (RMS)	0.6 ps (typ)
Noise Figure	4.5 dB (typ)
Signal-to-Noise Ratio	≥ 13.3 dB
Input Voltage Range	200 – 600 mV _{pp}
Supply Voltage	10 – 13 V (12 V nom.)
Current Consumption	200 – 450 mA
Power Dissipation	3.5 – 5.5 W
Operating Temperature	0 – 35 °C
RF Connectors	SMA Female, 50 Ω
Serial Interface	RS-232 / UART (3-pin)

APPLICATIONS

- LiNbO3 Mach-Zehnder modulator driving
- NRZ and RZ data format systems
- OC-192 SONET/SDH (10 Gb/s) links
- High-speed photonics R&D
- Quantum communication modulator drive
- Single-photon source modulation
- Pulse response characterisation
- Eye diagram testing (≥ 10 Gb/s)
- S-parameter measurement (50 Ω)

SERIAL INTERFACE

RS-232 Logic	Standard Level
UART Logic	LVTTL 0–3.3 V
Baud Rate	115200 bps
RS-232 Isolation	Electrically isolated

PRODUCT VARIANTS

C-RD20-01 **SINGLE CHANNEL**
DC–15 GHz, 8 V_{pp}, 30 dB.
Enclosed with integrated heat-sink.
144 × 50 × 40 mm
SMA Female · 12 V · RS-232/UART

C-RD20-02 **DUAL CHANNEL**
Two independent channels in same form-factor. DC–15 GHz, 8 V_{pp}, 30 dB.
142 × 46 × 27 mm
2× SMA Female · 12 V · RS-232/UART

ORDERING GUIDE

Part Number	Description
C-RD20-01	Single Channel
C-RD20-02	Dual Channel

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