

FTTx Optical Receiver Modules (ORMs)

Ultra-Low Noise Fully Autonomous FTTx/HFC Optical Receiver Modules

Nearly 30 years of constant improvement yields the Duet Microelectronics DTA000x family of wide dynamic range constant RF output fiber-to-the-premises (FTTP) optical receiver modules (ORMs). Developed to power SART and CableLabs Data Over Cable Service Interface Specification (DOCSIS®) 3.1 compliant FTTx and HFC networks with unmatched ease of use and bit efficiency, the DTA0002 and DTA0003 ORM's form the portfolio. Designers and OEMs of FTTx ONTs, HFC optical nodes and mobile consumer premises equipment (CPE) all benefit from the DTA000x family's Field-and-ForgetSM patent-pending ease of use, small landed footprint, and lowest cost per bit delivered performance.



Applications & Benefits

- Provides Fully Autonomous Current-to-Voltage Transimpedance for FTTx & HFC Optical Receivers
- Constant Vout and RF Pout as Photo Diode Current Varies (Duet Patents Pending)
- No Feedback Loop or Voltage Variable Attenuator (VVA) Required
- $E_{INC} \leq 2.0 \text{ pA/Square-Root-Hertz}$ (@ 87 to 1000 MHz, -15 dBm Optical Input Power)
- Constant Cascadable RF Output over -15 to +3 dBm Optical Input Power
- 75-Ohm Differential RF Output (Single-Ended Optional)
- User Adjustable Current versus Linearity (+5 Vdc @ 185 mA improves MER to > 40 dB)
- Compliant to State Administration of Radio and Television (SART) FTTH/HFC Optical Link Standards
- Reduce Landed Bill of Material (BOM) External SMT Parts Count by 10X or More Compared to Alternatives

DOCSIS is a registered trademark of CableLabs.

RF and Electrical Performance

Part Number	Frequency Range (MHz)	ORM Supply Voltage (Vdc)	Optical Power Input Range, Optical (dBm)	RF Output Power, Constant (dBmV/ch)	EINC, -15 dBm Optical (pA/ Sq-Rt-Hz)	Typical Supply Current @ +5 Vdc (mA)	Package Type
DTA0002	87 to 1000	+5 (+12 Optional)	+3 to -15	+23	≤ 2.0	135	QFN-16 3x3 mm
DTA0003	87 to 1000	+5 (+12 Optional)	0 to -18	+15	≤ 2.0	85	QFN-16 3x3 mm

Other Duet Microelectronics Products



LNA ICs



CBRS Transmit Module



5G mmW Transmit Modules



DOCSIS® 3.1 Amplifiers

About Duet Microelectronics

Our singular focus is helping you build products that you couldn't make before. Since our founding in 2016, we have attracted the industry's top design, engineering, process technology and applications talent. Guided by veteran RF business leaders and supported by a robust supply chain, modern quality management, service and support systems, our team is able to offer top tier RF semiconductor technology, products, service and support.

So, trust Duet Microelectronics for your next project. We offer more than just RF...we deliver RF that works for you!

Contact us today to learn more about our products or discuss having an RFIC designed to your specifications!