

Optical Node Series

Small Form-factor Pluggables (SFP)

RF Overlay SFPs for DAA (RxD) Node Solutions

FEATURES

- Low power, reduced bandwidth design supports RF overlay
- Analog receiver and analog transmitter modules support upstream and downstream processing and transmission
- Supports CommScope DAA solutions in the OptiMax™ 41xx and NC4 nodes

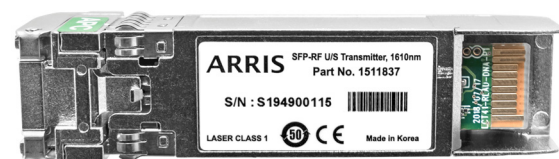
Some distributed access architectures (DAA) node deployments may include certain localized signals, such as local access channels, that cannot be processed through the RPD module. In these scenarios, an overlay of the RF signals is required to process these localized signals. CommScope has designed low-power, reduced bandwidth Small Form-factor Pluggables (SFPs) to facilitate RF overlay in this scenario.

The SFPs are available as downstream analog receivers and upstream analog transmitters. They are capable of processing and transmitting customized, traditional RF signals in RF overlay scenarios, which allows cable operators to deploy DAA solutions and still process existing signals that the RPD would not otherwise be able to support.

The SFPs operate in conjunction with a plug-in filter which is installed in the RPD. The filter prevents noise ingress from non-overlay RF signals from interfering with RF overlay signals. Plug-in filters are available in 550 MHz and 750 MHz options to support common analog broadcast signals.



Downstream Analog Receiver



Upstream Analog Transmitter



Plug-in Filter (550 MHz shown)

DOWNSTREAM SFP RECEIVER SPECIFICATIONS

Characteristics	Specifications		
Physical			
Connector Type	LC/APC		
Environmental			
Case Operating Temperature	-40° to 92°C (-40° to 198°F)		
Operating Humidity Range	5% to 95%, non-condensing		
Storage Case Temperature	-40° to 92°C (-40° to 198°F)		
Storage Humidity Range	5% to 85%, non-condensing		
Operating			
	Min	Typ	Max
Supply Voltage (Digital), V	3.13	3.3	3.47
Supply Voltage (Analog), V	4.5	5.0	5.5
Supply Current, mA	—	—	50 (digital) 160 (analog)
Power Dissipation, W	—	—	1.1
Optical			
	Min	Typ	Max
Optical Wavelength, nm	1260	—	1620
Optical Input Power Range, dBm	-4.0	0	+2.0
Responsivity, mA/mW	0.75	0.9	—
RF			
	Min	Typ	Max
Bandwidth, MHz	50	—	1002
Flatness, dB			
Up to 700 MHz	-0.5	—	+0.5
700–1002 MHz	-0.75	—	+0.75
RF Output Level Stability, dB	-1.5	—	+1.5
RF Output Level Accuracy, dB	-1.0	—	+1.0
RF Output Level, dBmV	20	—	22
CSO, dBc	—	—	-60
CTB, dBc	—	—	-60
CNR, dBc	50	—	—
MER, dBc	40	—	—
Impedance, ohm	—	75	—
Return Loss, dB	16.0	—	—
Equivalent Input Noise, pA/Hz	—	—	6.0

UPSTREAM SFP TRANSMITTER SPECIFICATIONS

Characteristics	Specifications		
Physical			
Connector Type	LC/APC		
Environmental			
Case Operating Temperature	-40° to 92°C (-40° to 198°F)		
Operating Humidity Range	5% to 95%, non-condensing		
Storage Case Temperature	-40° to 92°C (-40° to 198°F)		
Storage Humidity Range	5% to 85%, non-condensing		
Operating			
	Min	Typ	Max
Supply Voltage (Digital), V	3.13	3.3	3.47
Supply Voltage (Analog), V	4.5	5.0	5.5
Supply Current, mA	—	—	300 (digital) 220 (analog)
Power Dissipation, W	—	2.0	2.1
Optical			
	Min	Typ	Max
Laser Type	Isolated DFB		
Optical Wavelength, nm	1603.5	1611	1618.5
Optical Output Power, dBm	+2.0	+3.0	+4.0
Optical Output Power Stability Over Temperature, dB	-1.0	—	+1.0
Optical Power, Off State, dBm	—	—	-25
Spectral Width, nm	—	—	1.0
Side Mode Suppression, dB	30	—	—
Relative Intensity Noise, dB/Hz	—	—	-145
OMI	15.6%	17.5%	19.6%
RF			
	Min	Typ	Max
Bandwidth, MHz	5	—	204
Flatness, dB	-1.0	—	+1.0
RF Level Stability, dB	-1.0	—	+1.0
Input Impedance, ohm	—	75	—
Return Loss, dB	16.0	—	—
Optical Link Performance			
Optical Link Budget, dB	—	9	—
NPR Dynamic Range, dB	—	40/9	—
Peak NPR, dB	43	45	—
BER Dynamic Range, dB	—	17	—
Spurious Noise, dBc			
Carrier On	—	-50	—
Carrier Off	—	-50	—

ORDERING INFORMATION

Part Number	Model Name	Description
1511837-0061	SFP-RF-TX	SFP+, Transmitter, Analog, 1611 nm, LC/APC Connector, -40° to 92°C
1511835	SFP-RF-RX	SFP+, Receiver, Analog, LC/APC Connector, -40° to 92°C
1513948	FL92-550 MHz	Low-pass Filter, 54–550 MHz, 75 ohm
1513949	FL92-750 MHz	Low-pass Filter, 54–750 MHz, 75 ohm

RELATED PRODUCTS

Remote PHY Device	OM4120™ Node
OM4100™ Node	NC4000™ Node
Fiber Link Modules	Installation Services

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656



Note: Specifications are subject to change without notice.

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