



DMT3 & DMT4 1310nm Directly Modulated Transmitter Modules:

Applications:

- ▶ DOCSIS® 3.1 performance
- ▶ High density applications
- ▶ Short haul applications

Features:

- ▶ Bandwidth: 50-1218 MHz link
- ▶ Loss Budgets: 4-14 dB
- ▶ High Density Design: Either 12 or 16 transmitters per RU
- ▶ Hot-swappable plug-in cards
- ▶ Transmitter RF Inputs
 - ▶ DMT3 - Common broadcast & three narrowcast inputs
 - ▶ DMT4 - Four RF inputs (BC/NC externally combined)
- ▶ Front Access
 - ▶ LC/APC optical output connectors
 - ▶ Selectable RF test point
 - ▶ LED indicators for RF & optical power alarms
- ▶ Local & remote status monitoring & management via SNMP, CLI & web-based GUI

ATX provides two application dependent versions of the directly modulated, 1310nm transmitter family. Both versions are optimized for a wide range of DOCSIS 3.1 compliant applications where performance, space-efficiency & maintainability are the important criteria.

The first version, model DMT3, is designed for broadcast/narrowcast applications including one broadcast input, three narrowcast inputs & three 1310nm optical outputs varying in power from 4-14 dBm.

The DMT4 allows operators to take advantage of the highest density with four transmitters per module for applications where the broadcast/narrowcast signals are externally combined.

Both versions are housed in a single-slot ChromaFlex module using rear facing blind mating RF connectors, front panel optical LC/APC connectors & an F-81 common test point selectable for each RF input.



DMT3 & DMT4 1310nm Directly Modulated Transmitter Modules:

DMT3-1310nm Transmitter Specifications

SPECIFICATIONS	DMT3-1310-04	DMT3-1310-06	DMT3-1310-08	DMT3-1310-10	DMT3-1310-12	DMT3-1310-14
OPTICAL SPECIFICATIONS						
OPTICAL OUTPUT POWER RANGE	4-4.5 dBm	6-6.5 dBm	8-8.5 dBm	10-10.5 ± 0.25 dBm	12 ± 0.25 dBm	14 ± 0.25 dBm
WAVELENGTH	1310 ± 20nm					
CONNECTOR	LC/APC					
RF SPECIFICATIONS						
INPUT IMPEDENCE	75 Ω					
INPUT RETURN LOSS	> 16 dB					
TEST POINT ⁽¹⁾	-10 dB (± 0.75 dB)					
PASSBAND	54-1218 MHz					
FLATNESS	± 0.75 dB (Typ ± 0.5 dB)					
NC-BC INPUT ISOLATION	> 50 dB					
LEVEL STABILITY (Over Operating Temperature Range)	± 0.25 dB					
CHANNEL LOADING / RF INPUT LEVEL (35 dBmV Total Composite Power) ⁽²⁾	BC ANALOG		SC QAM		OFDM	
30 An + 125 QAM	15 dBmV		9 dBmV			
157 QAM + 192 MHz OFDM			12 dBmV		27 dBmV Total Power	
LINK PERFORMANCE (Specified RF Input Level & 0 dBm Optical Receive Level)						
30 An + 125 QAM	CNR	51 dB	51 dB	51 dB	51 dB	50 dB
	CSO	> 65 dB				
	CTB	> 70 dB				
	XMOD	> 65 dB				
	MER	> 38 dB				
	256 QAM BER (ITU-C pre-FEC)	> 1E-06				
157 QAM + 192 MHz OFDM						
MER	> 40 dB					
256 QAM BER (ITU-C pre-FEC)	> 1E-07					
PHYSICAL						
DIMENSIONS	ChromaFlex One-slot Module, 1.25"H x 3.5"W x 14.5"D (3.18H x 8.89W x 36.83D cm)					
WEIGHT	1.75 lbs (0.8 kg)					
ENVIRONMENTAL						
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)					
STORAGE TEMPERATURE	-40°C to +85°C (-40°F to +185°F)					
HUMIDITY	5-95% Non-condensing					
MANAGEMENT						
LOCAL	Hand-held Display, CLI, GUI					
REMOTE	SNMP Enterprise MIB, GUI, Telnet					
POWER REQUIREMENTS						
POWER CONSUMPTION	25W with 3-1310 Lasers in One Module					
NOTES:						
(1) Relative to RF input port.						
(2) 'n An' means tested with n* contiguous NTSC analog channels starting at 54 MHz.						
'n QAM' means tested with n* contiguous ITU-T J.83 ANNEX B QAM 256 channels starting at 54 MHz (or last analog).						
RF levels given are nominal (recommended). Internal AGC will compensate approx. +/- 3 dB change from these levels.						

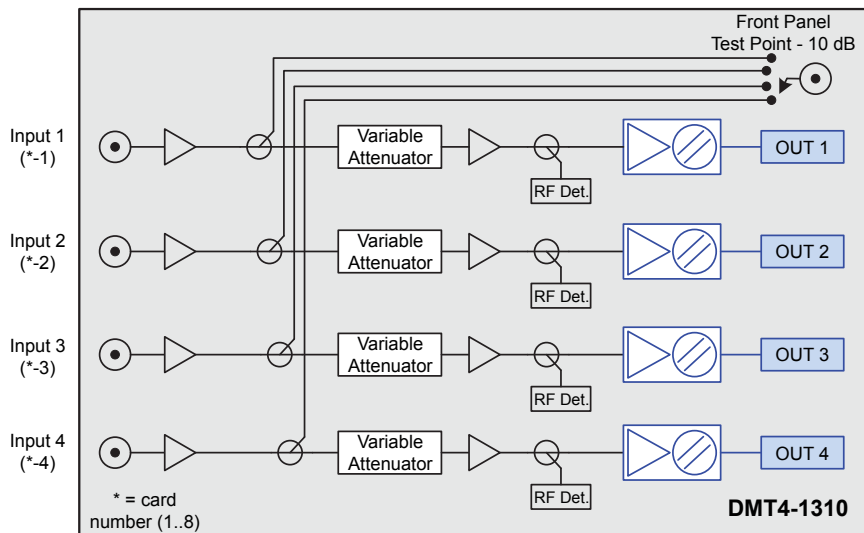
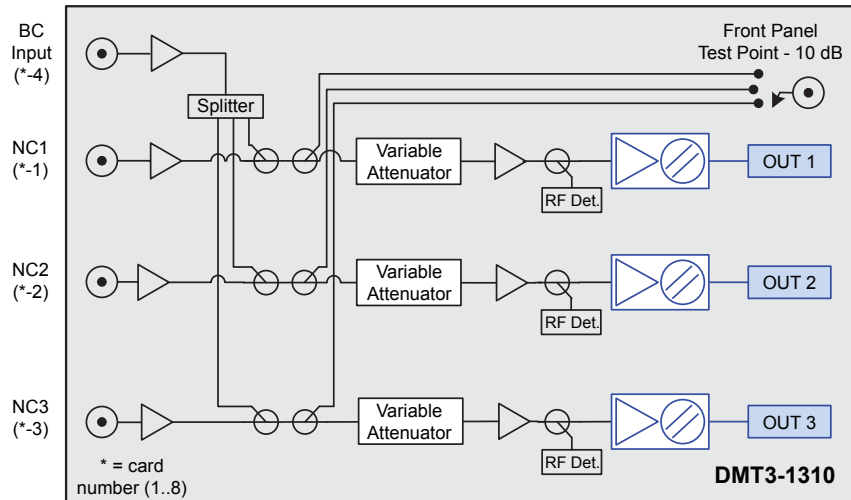
DMT3 & DMT4 1310nm Directly Modulated Transmitter Modules:

DMT4-1310nm Transmitter Specifications

SPECIFICATIONS		DMT4-1310-04	DMT4-1310-06	DMT4-1310-08	DMT4-1310-10	DMT4-1310-12	DMT4-1310-14
OPTICAL SPECIFICATIONS							
OPTICAL OUTPUT POWER RANGE		4-4.5 dBm	6-6.5 dBm	8-8.5 dBm	10-10.5 ± 0.25 dBm	12 ± 0.25 dBm	14 ± 0.25 dBm
WAVELENGTH		1310 ± 20nm					
CONNECTOR		LC/APC					
RF SPECIFICATIONS							
INPUT IMPEDENCE		75 Ω					
INPUT RETURN LOSS		> 16 dB					
TEST POINT ⁽¹⁾		-10 dB					
PASSBAND		54-1218 MHz					
FLATNESS		± 0.75 dB (Typ ± 0.5 dB)					
NC-BC INPUT ISOLATION		n/a					
PORT-TO-PORT ISOLATION		> 50 dB					
LEVEL STABILITY (Over Operating Temperature Range)		± 0.25 dB					
CHANNEL LOADING / RF INPUT LEVEL (35 dBmV Total Composite Power) ⁽²⁾		BC ANALOG		SC QAM		OFDM	
30 An + 125 QAM		15 dBmV		9 dBmV			
157 QAM + 192 MHz OFDM				12 dBmV		27 dBmV Total Power	
LINK PERFORMANCE (Specified RF Input Level & 0 dBm Optical Receive Level)							
30 An + 125 QAM	CNR	51 dB	51 dB	51 dB	51 dB	50 dB	50 dB
	CSO	> 65 dB					
	CTB	> 70 dB					
	XMOD	> 65 dB					
	MER	> 38 dB					
	256 QAM BER (ITU-C pre-FEC)	> 1E-06					
157 QAM + 192 MHz OFDM							
MER		> 40 dB					
256 QAM BER (ITU-C pre-FEC)		> 1E-07					
PHYSICAL							
DIMENSIONS		ChromaFlex One-slot Module, 1.25"H x 3.5"W x 14.5"D (3.18H x 8.89W x 36.83D cm)					
WEIGHT		1.75 lbs (0.8 kg)					
ENVIRONMENTAL							
OPERATING TEMPERATURE		0°C to +50°C (+32°F to +122°F)					
STORAGE TEMPERATURE		-40°C to +85°C (-40°F to +185°F)					
HUMIDITY		5-95% Non-condensing					
MANAGEMENT							
LOCAL		Hand-held Display, CLI, GUI					
REMOTE		SNMP Enterprise MIB, GUI, Telnet					
POWER REQUIREMENTS							
POWER CONSUMPTION		32W with 4-1310 Lasers in One Module					
NOTES:							
(1) Relative to RF input port.							
(2) 'n An' means tested with n* contiguous NTSC analog channels starting at 54 MHz.							
'n QAM' means tested with n* contiguous ITU-T J.83 ANNEX B QAM 256 channels starting at 54 MHz (or last analog).							
RF levels given are nominal (recommended). Internal AGC will compensate approx. +/- 3 dB change from these levels.							

DMT3 & DMT4 1310nm Directly Modulated Transmitter Modules:

Functional Schematics



Ordering Information

Part Number	Description
DMT3-1310-**	Triple 1310nm Direct Mod Transmitter, One BC & Three NC Inputs
DMT4-1310-**	Quad 1310nm Direct Mod Transmitter, Four RF Inputs
NOTE:	
** = Output Level in dBm (04, 06, 08, 10, 12, or 14)	

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