

LiNbO₃ Dual Output CATV Modulator



➤ Key Capability

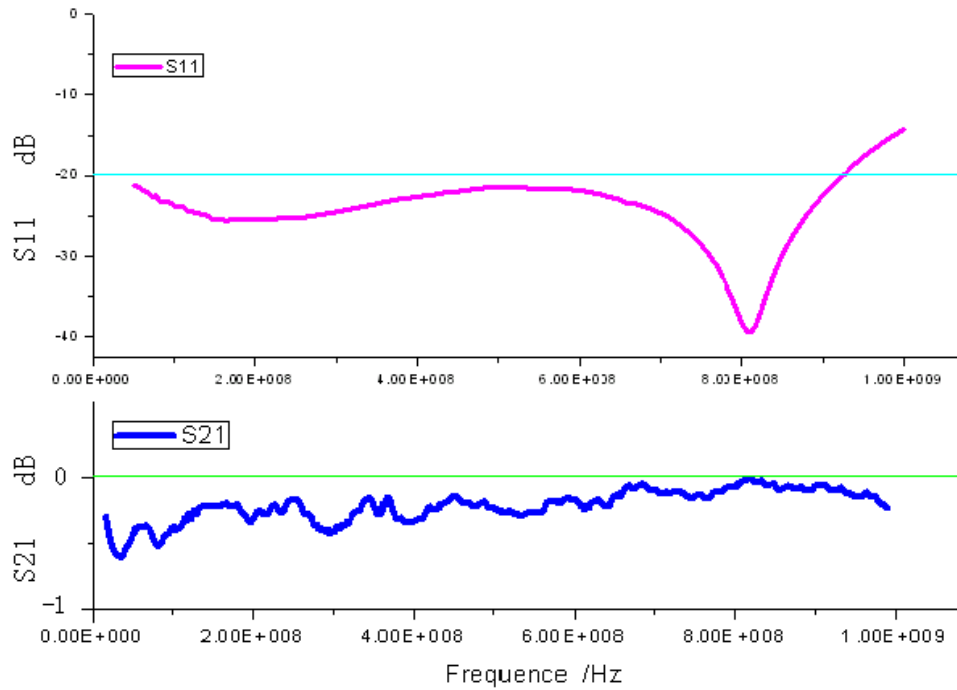
- 1550 nm Window
- APE Waveguide
- Low Insertion Loss
- Low Drive Voltage
- Low Electrical Return Loss(S11)
- Flat Frequency Response
- Separate Bias Electrode
- Dual Optical Output Ports
- Enables Low CSO on Both Outputs
- Integrated Phase Modulator

The SWT dual output analog community antenna television (CATV) modulator is based on a Mach-Zehnder waveguide interferometer and is manufactured using the annealed proton exchanged in X-cut, Y-propagating LiNbO₃ substrates, it is rated for operation at optical power levels to 200mW. Two optical outputs offer flat electrical frequency response and excellent composite second order distortion(CSO).

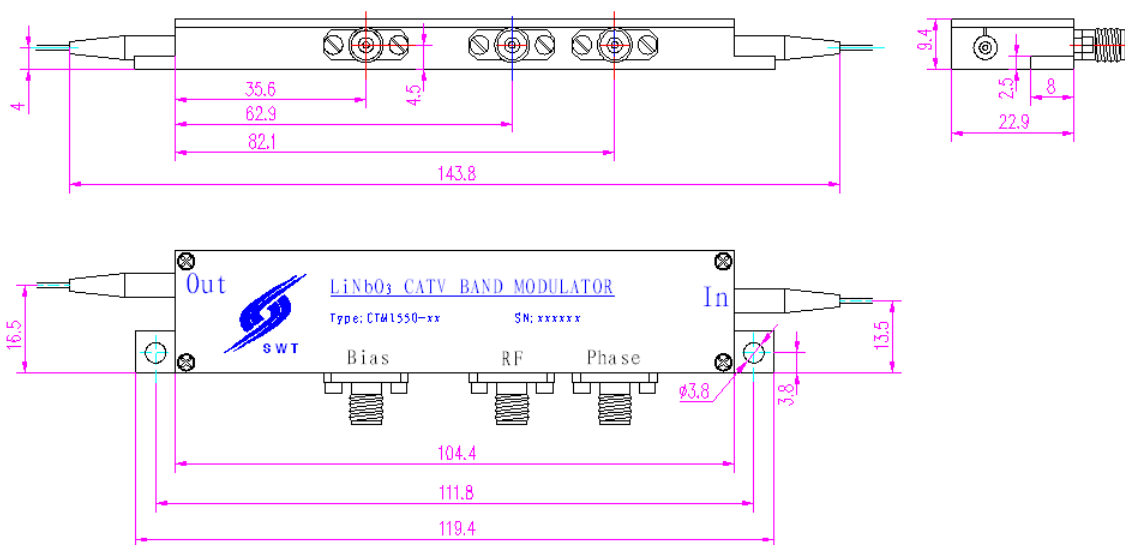
➤ Applications

- High Performance External Intensity Modulation for 1550 nm CATV Band Transmitters

➤ **Typical Return Loss & Frequency Response Curve(S11& S21)**



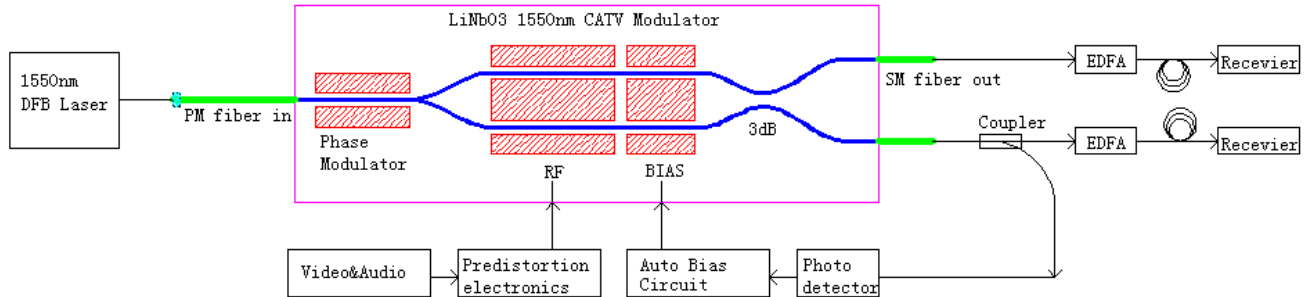
➤ **Dimensions Diagram(Unit: mm)**



➤ Specifications(23°C)

PARAMETER		SPECIFICATION	
Optical	Operating Wavelength	nm	1550±10
	On/Off extinction Ratio	dB	≥23
	Optical Return Loss	dB	≥45
	Insertion Loss	dB	≤4.5
	Insertion Loss imbalance between outputs	dB	≤0.5
	Input Optical Power	mW	≤200
Intensity modulator	Signal Electrode V_{π} (@100MHz)	V	≤6
	Applied RF Power	dBm	≤24
	Bias Electrode V_{π} (@DC)	V	≤7.5
	Bias Applied DC Voltage	V	≤±20
	Operating Bandwidth	MHz	47~ 860
	Amplitude Flatness	dB	≤±0.5
	Phase Flatness	°	≤±5
	Electronic Reflect (S_{11})	dB	≤-18
Phase modulator	Half Wave Voltage (@DC)	V	≤8.5
	3dB Operating Bandwidth	GHz	≥2.5
	Electronic Reflect (S_{11})	dB	≤-10
	Applied RF Power	dBm	≤30
	Input Impedance	Ω	50
Mechanical	Input Fiber	PM Fiber, 0.9mm loose tube	
	Output Fiber	SM Fiber, 0.9mm loose tube	
	Electrical connector	SMA	
Environmental	Operating Temperature	°C	0~+70
	Storage Temperature	°C	-40~+80

➤ Typical Applications In CATV Transmission System



➤ Ordering Information

Type	Description
CTM1550-33	Input PM Fiber, Output SM Fiber, no fiber connector
CTM1550-13	Input PM Fiber with FC/PC connector; Output SM Fiber, no connector

We can provide different pigtail and package by customer requirement.

For more information on this or other products and their availability, please contact us.

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