



# CATV Optical Receiver Module

## ***RXMM918-409***

---

### Features

- *High performance InGaAs PIN*
- *High responsivity, High linearity*
- *Smaller size, more reliable*
- *Low power consumption*
- *Low receiving optical power*
- *-6dBm~ +2dBm AGC dynamic range*
- *+3dB~ +5dB tilt from 45Mhz~ 1000Mhz*
- *-20°C~ +70°C operating ambient temperature*
- *IEC Male Connector*
- *Built in AGC function of receiver enables RF output tolerance in 2 dB even when optical input power varies from -6dBm to +2dBm*
- *RoHS Compliant*

### Application

- *CATV networks*
- *FTTH networks video*

*receiver-ONU Side*

## Description

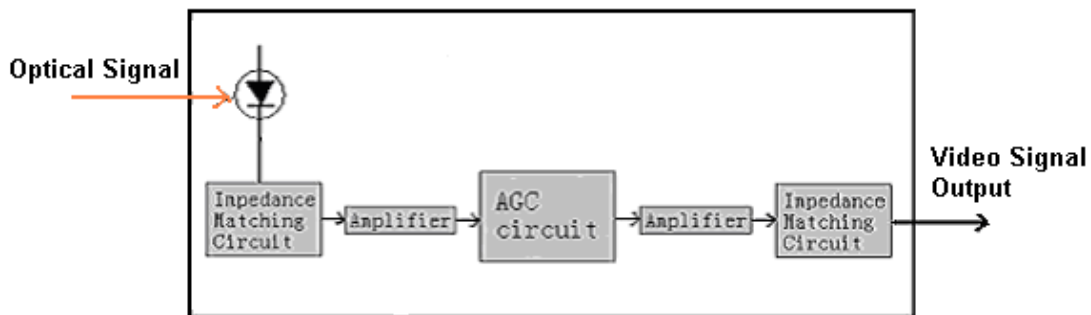
The CATV Optical Receiver is designed for FTTH networks ONU side to receive the 1550nm video signal.

The receiver contains an Automatic Gain Control (AGC) circuit to maintain the output level over an input optical power of  $-6\text{dBm} \sim +2\text{dBm}$ .

The receiver contains an Amplitude Equilibrium circuit to offer 5dB tilt over the frequency band of 45MHz~1000MHz to offset the high frequency attenuation of cable.

The receiver can fit together with xPON (Passive Optical Net) SFF transceiver or PtoP optical transceiver to fulfill tri-play function for FTTH networks.

## Block Diagram



## Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Typ	Max	Note
Storage Temperature Range	Ts	°C	-40		+85	
Operating Temperature Range	To	°C	-20		+70	
Relative Humidity	RH	%	5		95	
Lead solder temperature	-	°C			260	
Lead solder duration	-	S		10		
Fiber yield strength	-	kgf		1		
Fiber bend radius	-	mm		30		

## Recommended Operating Conditions

Parameter	Symbol	Unit	Min	Typ	Max	Note
DC Voltage	V <sub>cc</sub>	V	4.8	5	5.2	
DC Current	I	mA		140	150	
Power Consumption	Pcom	W			0.75	

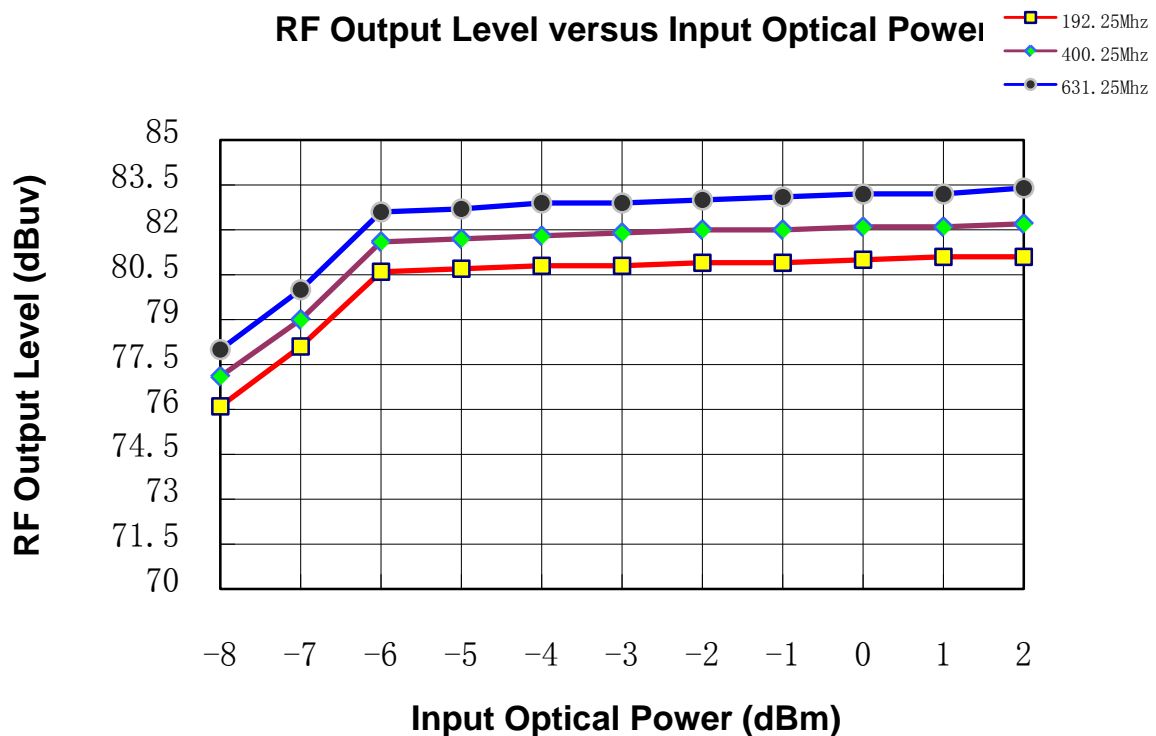
# Specifications

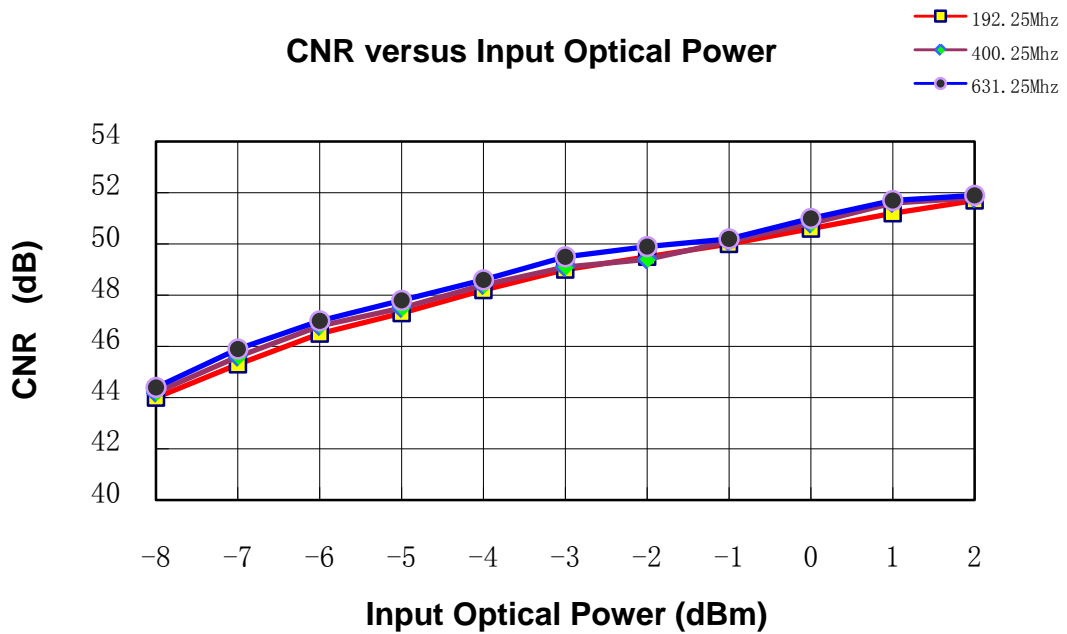
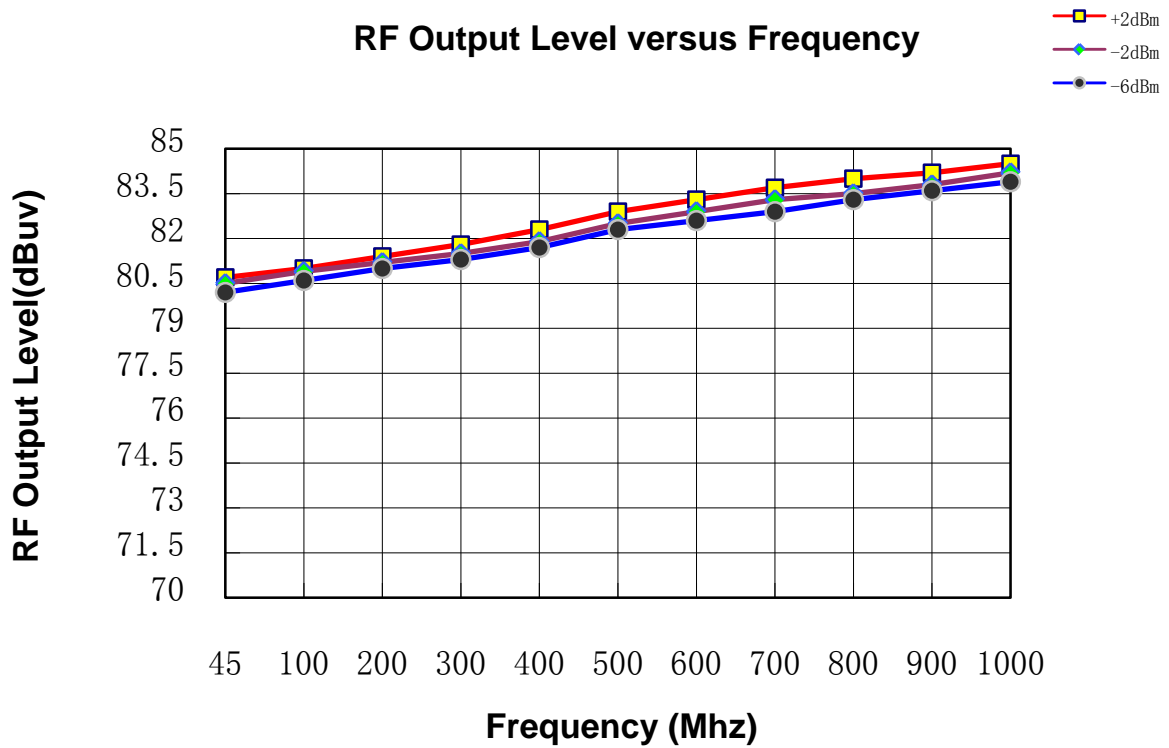
Parameter	Symbol	Unit	Min	Typ	Max	Test condition
Electrical Characteristics						
Frequency Range	Fop	MHz	45		1000	
RF Output Level	Lo	dBuv		80		Note1
Flatness In Band		dB		±1	±1.5	
Tilt In Band		dB		3	5	
Output Return Loss	RI	dB	14	17		
Output Impedance	Zo	Ω		75		
CNR	CNR	dB	46			Note2
CSO	CSO	dB	62	65		Note3
CTB	CTB	dB	65	68		Note3
Optical Characteristics						
Input Optical Power	Popt	dBm	-8	BBPP	+2	
Optical Return Loss		dB	50			
wavelength		nm	1260		1610	

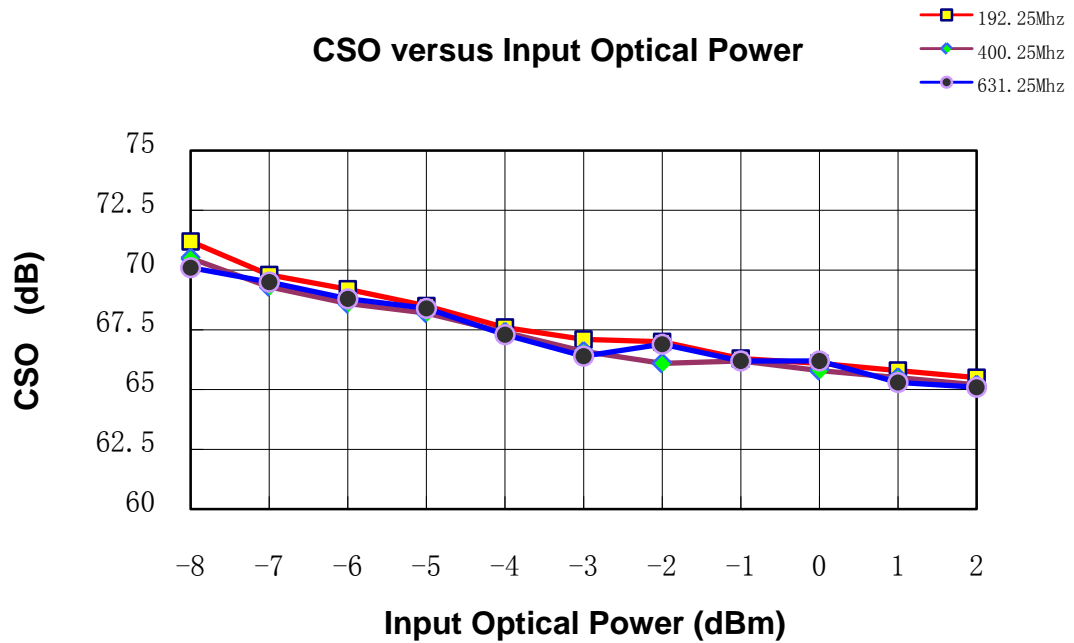
**Note1:** Optical Input Power: -6dBm, 551.25Mhz, OMI=3.5%

**Note2:** Optical Input Power: -6dBm, 84 PAL-D channels, OMI=3.5%

**Note3:** Optical Input Power: +2dBm, 84 PAL-D channels, OMI=3.5%







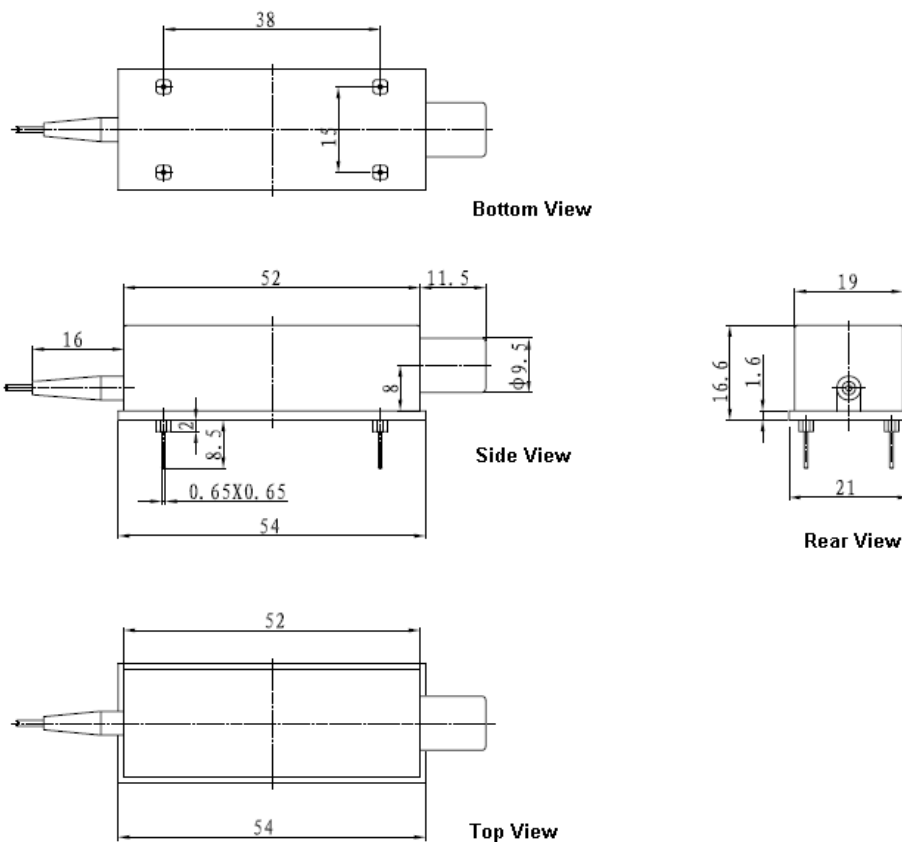
## Connector Type

Connector	Style	Note
RF Output	IEC Male or Imperial F Type Female	Optional
Optical Input	FC/APC or SC/APC	Optional

## Pin Description

Pin	Name	Description	Pin	Name	Description
1	V <sub>cc</sub>	+5V	3	GND	Ground
2	GND	Ground	4	GND	Ground

## Package Outline



Unit: mm

## Ordering Information

Part No.	Specifications					Application
	Package	Band	Rx	Top	others	
RXMM918-409	1x4pin	45~1000MHz	PIN	-20°C +70°C	RoHS	FTTH

**Note:** For more details, RXMM918-409-C00V10R01 is IEC Male connector; RXMM918-409-C00V10R02 is Female connector (3/8-32UNEF-2B thread).

WTD reserves the right to make changes to the product(s) or information contained herein without notice. No liability is assumed as a result of their use or application. No rights under any patent accompany the sale of any such product(s) or information.

Edition 2009-12-01

Published by Wuhan Telecommunication Devices Co.,Ltd.

Copyright © WTD

All Rights Reserved.