



CATV Optical Receiver Module

RXMM918-405

Features

- *High performance InGaAs PIN*
- *High responsivity, High linearity*
- *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*
- *Input optical power monitoring and alarming*
- *RF output signal Enable/Disable*
- *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.

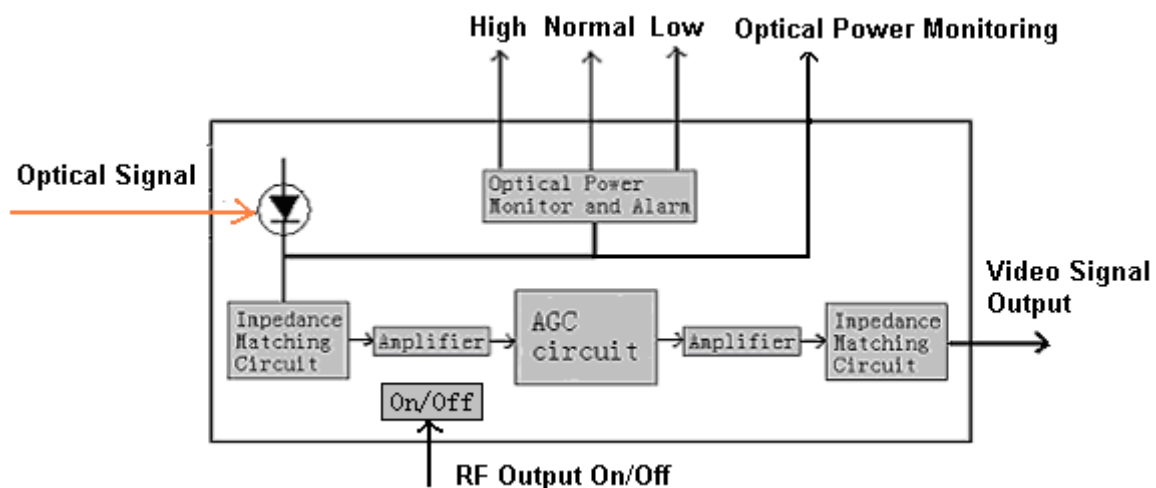
The receiver can fit together with xPON (Passive Optical Net) SFF transceiver or PtoP optical transceiver to fulfill triplay function for FTTH networks.

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 contains an RF output signal Enable/Disable function for customers to control the video signal's On/Off.

Block Diagram



Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Typ	Max	Note
Storage Temperature Range	T_s	$^{\circ}\text{C}$	-40		+85	
Operating Temperature Range	T_o	$^{\circ}\text{C}$	-20		+70	
Relative Humidity	RH	%	5		95	
Lead solder temperature	-	$^{\circ}\text{C}$			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 to PD	V_{CC}	V	+10	+12	+15	
PD Current	I_{PD}	mA			3	
DC Voltage to Amplifier	V_{CC}	V	+4.8	+5	+5.2	
Amplifier Current	I_{amp}	mA		150		
Power Consumption	P_{con}	W		0.75		

Specifications

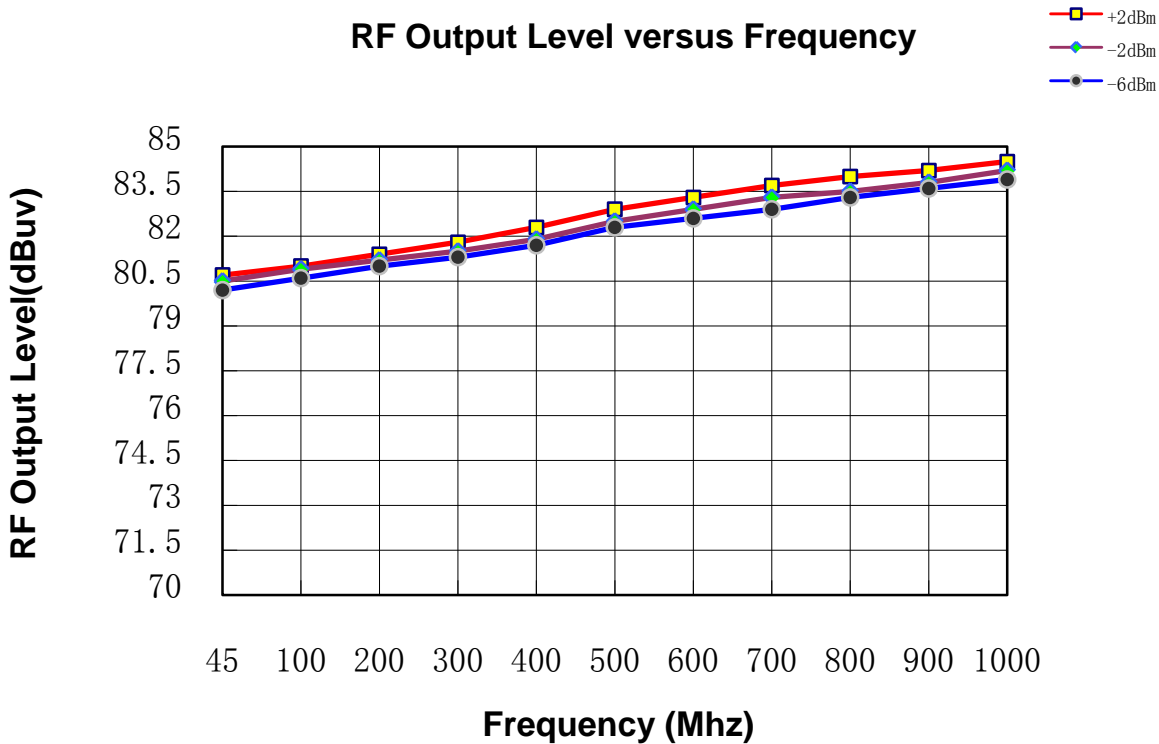
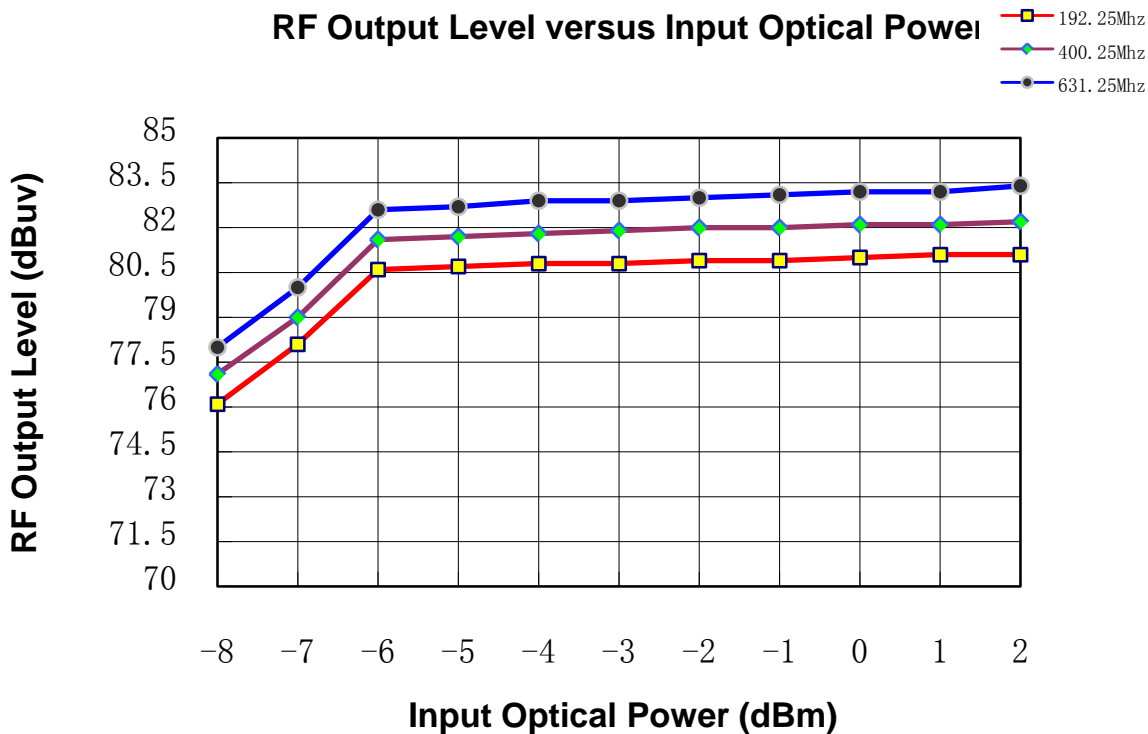
Parameter	Symbol	Unit	Min	Typ	Max	Test condition
Electrical Characteristics						
Frequency Range	F_{op}	MHz	45		1000	
RF Output Level	L_o	dBuV		80		Note 1
Flatness In Band		dB		± 1	± 1.5	
Tilt In Band		dB		3	5	
Onput Return Loss	R_l	dB	15	17		
Output Impedance	Z_o	Ω		75		
CNR	CNR	dB	46			Note 2
CSO	CSO	dB	62	65		Note 3
CTB	CTB	dB	65	68		Note 3
Optical receive Characteristics						
AGC Dynamic Range	P_{AGC}	dBm	-6		+2	Note 4
Input Optical Power	P_{opt}	dBm	-8		+2	
Optical Return Loss		dB	50			
Wavelength		nm	1260		1610	

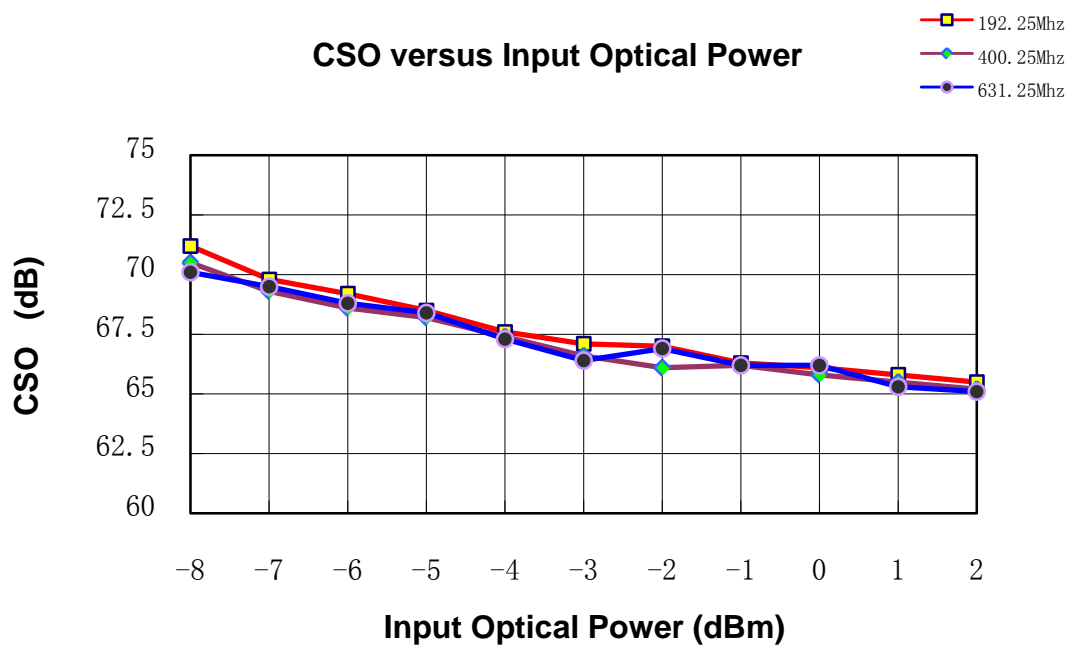
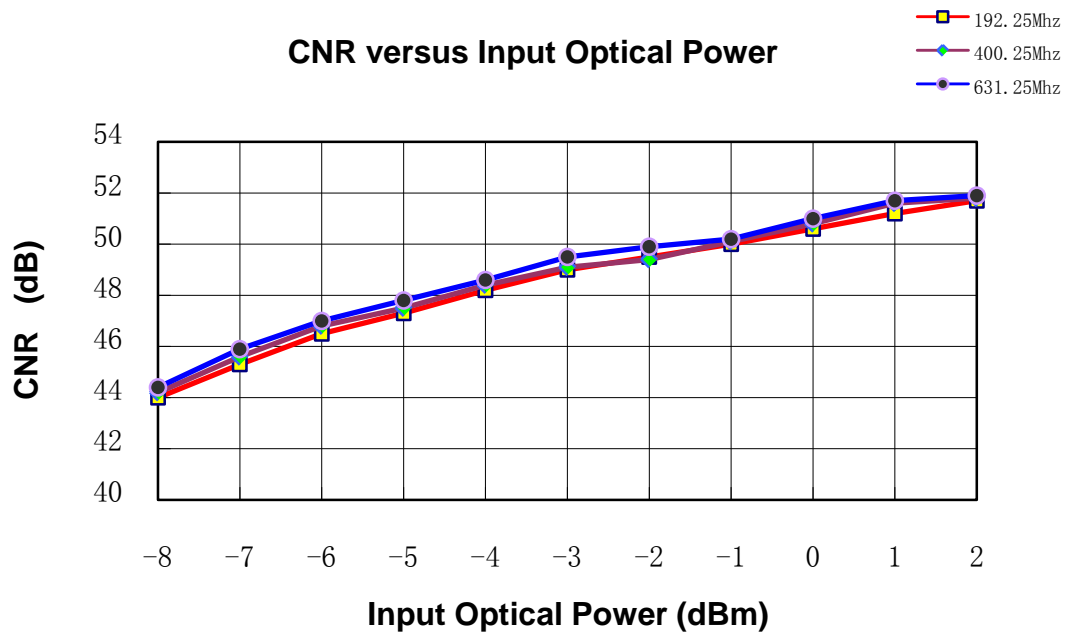
Note1: Optical Input Power: -6dBm, 551.25Mhz, OMI=3.3%

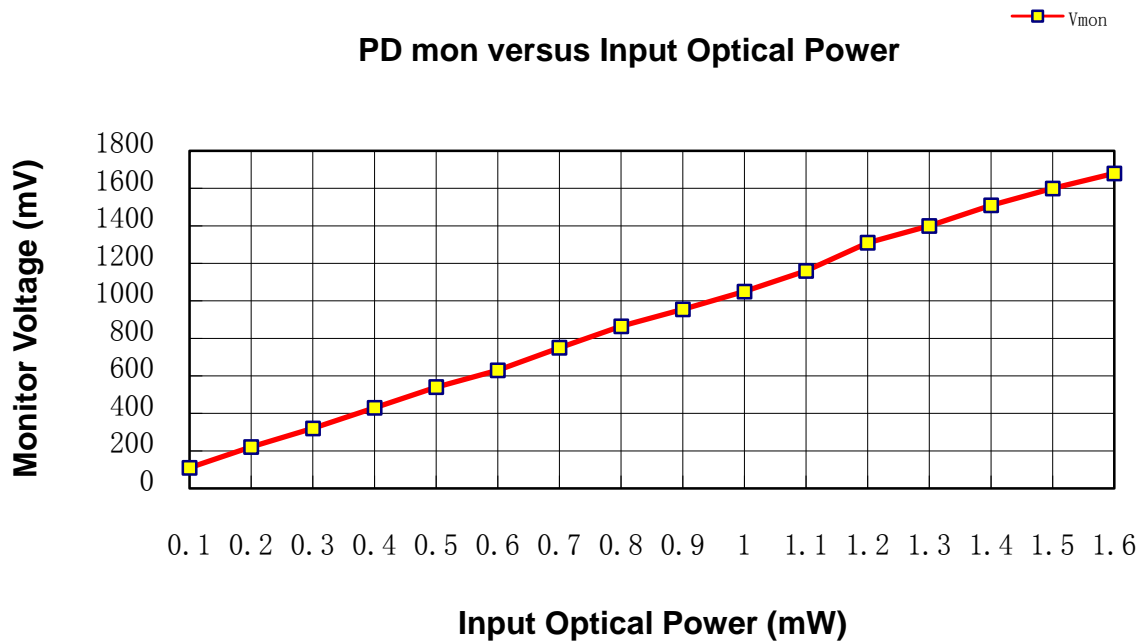
Note2: Optical Input Power: -6dBm, 84 PAL-D channels, OMI=3.3%

Note3: Optical Input Power: +2dBm, 84 PAL-D channels, OMI=3.3%

Note4: Optical Input Power: -6dBm~ +2dBm,551.25Mhz, OMI=3.3%,Output level is 80dBuV \pm 2dB







Connector Type

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

Pin Description

Pin	Name	Description	Note	Pin	Name	Description	Note
1	V _{PD}	+12V		6	High	Optical Power Overload	2
2	GND	Ground		7	Nor	Optical Power Normal	3
3	V _{amp}	+5V		8	Low	Optical Power Loss	4
4	GND	Ground		9	PD mon	Optical Power Monitor	5
5	Disable	Module Disable	1	10	GND	Ground	

Note1: Internal pullup resistance. No connect or TTL High for enable; TTL Low for Disable.

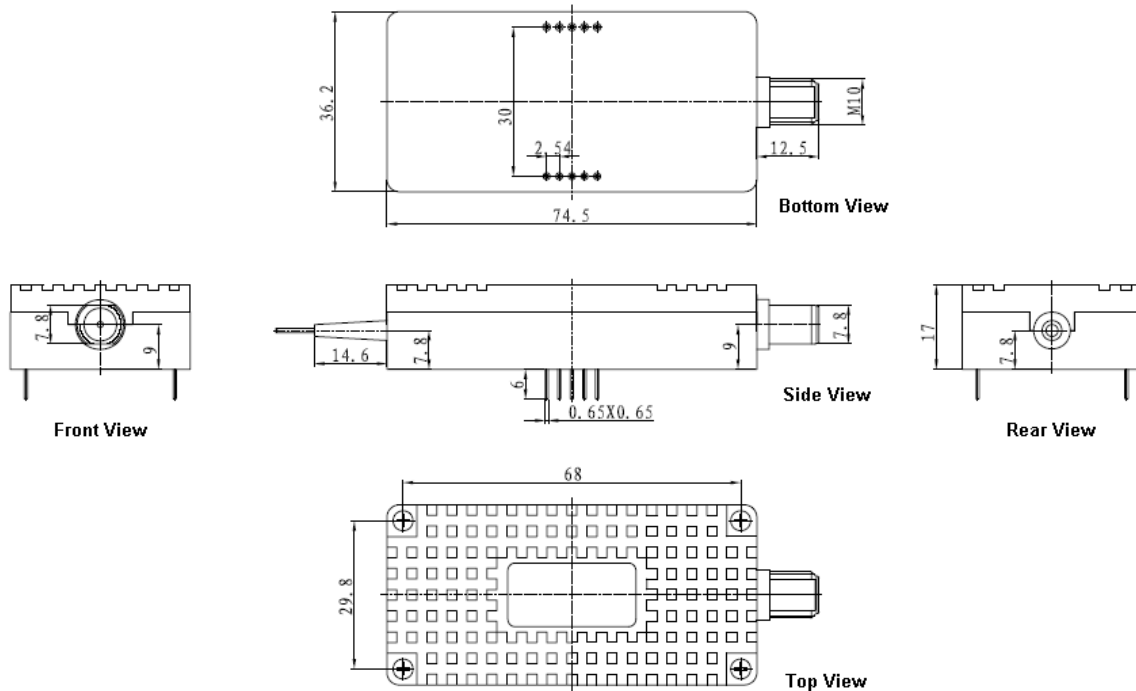
Note2: PIN6=3.5V @ $P_{opt} \geq +2dBm$

Note3: PIN7=3.5V @ $-8dBm \leq P_{opt} \leq +2dBm$

Note4: PIN8=3.5V @ $P_{opt} \leq -8dBm$

Note5: PIN9's output voltage is linear variety according to Input Optical Power.

Package Outline



Unit: mm

Ordering Information

Part No.	Specifications					Application
	Package	Band	Rx	Top	others	
RXMM918-404	2x5pin	45~1000MHz	WDM-PIN	-20°C+70°C	F Female; RoHS	FTTH
RXMM918-405	2x5pin	45~1000MHz	PIN	-20°C+70°C	F Female; RoHS	FTTH

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Edition 2009-12-01

Published by Wuhan Telecommunication Devices Co.,Ltd.

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