



MX555AGC-R Series
FTTH CATV AGC Optical Receiver
(47~862MHz)
Technical Specification



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1.0 PRODUCT DESCRIPTION

The Maxcom MX-555-AGC-R FTTH CATV optical receiver, with a bandwidth of 47~862MHz, and an AGC function, will provide a typical output level 28 dBmV ± 1.0 dB when the input optical receive power is +2~-7dBm, Receiver is generally used in FTTH applications, for residential and business applications. Works well for Schools, Hospitality and Government applications. As an RF/ Cable TV optical receiver unit, it provides a high index, and low power consumption and good performance at a very low cost.

The Maxcom MX-555-AGC adopts high sensitivity receiving tube and special low noise matching circuit. 3.8% modulate, full channel transmit, -8dBm optical power receiving, and the CNR can continue to reach a high index 45dB. The MX-555-AGC-R adopts optical AGC circuitry, realizing high performance automatic level control (ALC).

The MX555 optical receiver operates with a wide optical input range in the 1210~1600nm wavelength.

2.0 PRODUCT FEATURE

1. Extra low noise (3.8% modulate, -8dBm receiving, $CNR \geq 45$ dB)
2. Receiving optical power within +2dBm~-10dBm, with excellent linearity
3. High performance ALC ($\Delta V_o \leq 1.0$ dB, $P_{in} = +2 \sim -7$ dBm)
4. Within 47~862MHz bandwidth, all with excellent flatness feature ($FL \leq \pm 1.0$ dB)
5. Metal case, offers protection for optoelectronic sensitive devices
6. Low power consumption, high performance, high cost performance

3.0 MAIN APPLICATION

- FTTH
- FTTP, FTTO

4.0 STATUS INDICATOR

Input optical power status indicator: LED bar illuminates to display optical input power

5.0 PRINCIPLE



6.0 TECHNICAL INDEX

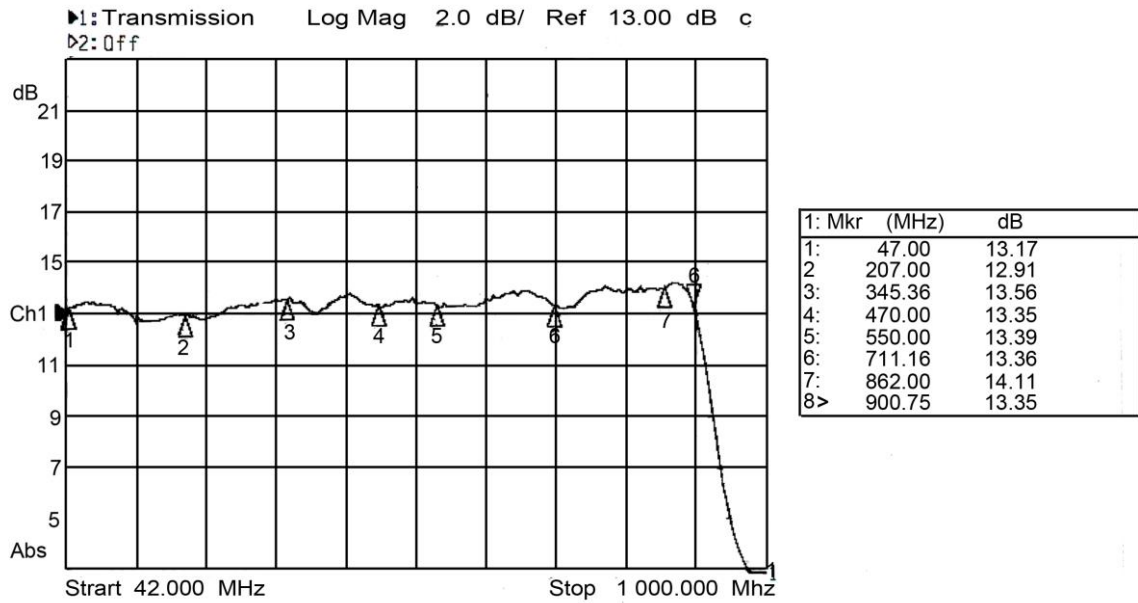
Performance		Index	Supplement	
Optic feature	CATV work wavelength	(nm)	1260~1620	MX555AGC-R/NC
	Channel Isolation	(dB)	≥ 40	1550 & 1490nm
	Responsibility	(A/W)	≥ 0.85	1310nm
			≥ 0.9	1550nm
	Receiving power	(dB)	+2 ~ -10	Analog TV
			+2~-16	Digital TV
	Optical return loss	(dB)	≥ 55	
Optical fiber connector		SC/APC	MX555AGC-R	
RF feature	Work bandwidth	(MHz)	47 ~ 1200	
	Flatness	(dB)	$\leq \pm 1.0$	
	Output level	dBmV	28	Pin:-7.0~+2.0dBm
	ALC(AGC) character (ΔV_o)	(dB)	$\leq \pm 1.0$	Pin:-7.0~+2.0dBm
	Output level adjust	(dB)	0 ~ 18	MGC
	Return loss	(dB)	≥ 16	47 ~ 862MHz
	Output impedance	(Ω)	75	
	Output port number		1	
	RF tie-in		F-Female	

Analog TV Link feature	Test channel	CH	59CH (PAL-D)	NTSC/80CH
	OMI	(%)	3.8	
	CNR1	(dB)	53.5	Pin=-2dBm
	CNR2	(dB)	47.4	Pin=-7dBm
	CTB	(dB)	≤-67	Pin:0~-10dBm
	CSO	(dB)	≤-65	Pin:0~-10dBm
	HUM	(dB)	≤-60	
Digital TV Link feature	Test channel		<10 CH	Analog
			Digital QAM	47-862MHz
	MER	(dB)	38 (Remark1)	Pin : -7.0~+2.0dBm
			35.0	Pin = -15.0dBm
BER	(dB)	<1.0E-9	Pin : -20.0~+2.0dBm	
General feature	Power supply	(V)	110VDC	±1.0V
	Power Consume	(W)	≤2	+12VDC, 210mA
	Work temp	(°C)	-20 ~ +50	
	Storage temp	(°C)	-40 ~ 85	
	Work relative temp	(%)	5 ~ 59	
	Size	(mm)	483*44*135	(W)×(D)×(H)

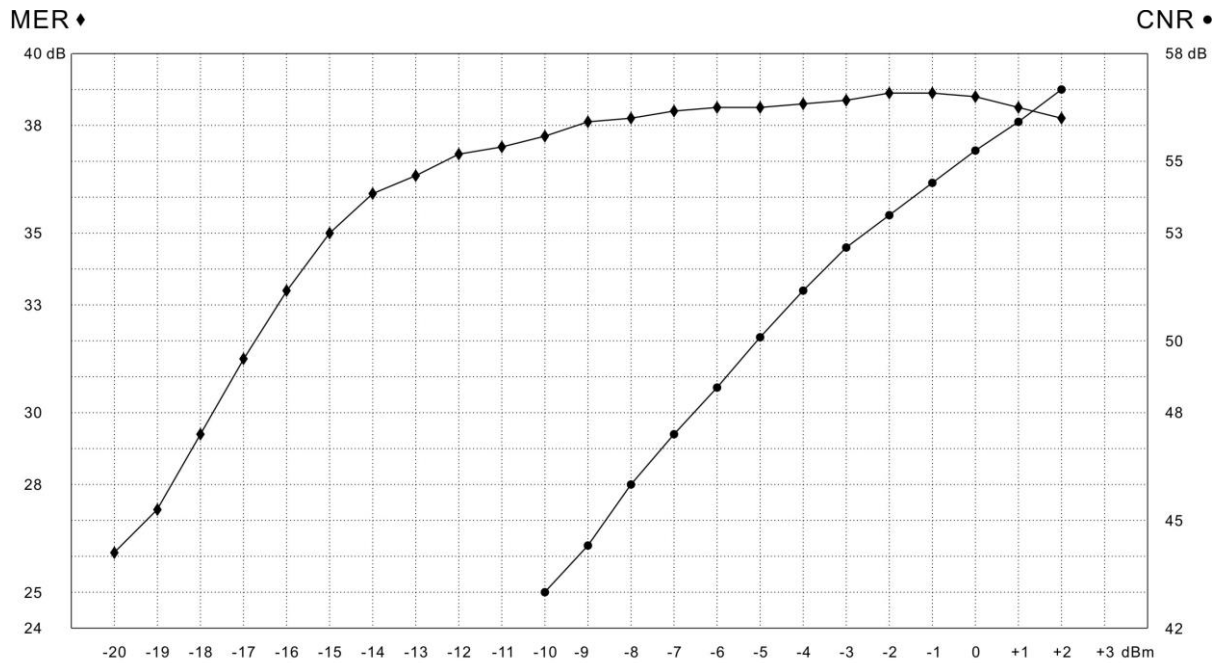
Remark: 1. CATV test signal: MER: 38.0dB, BER: <1.0E-9

7.0 TEST DATA

7.1 FLATNESS



7.2 CNR, MER DEGRADATION TABLE



Remark: 1. CNR Original signal:59CH PAL-D, OMI=3.8%
 2. Digital TV test signal: MER=38.0dB, BER<1.0E-9

7.3 ANALOG TV TEST DATA (Pin=+2.0dBm~-10.0dBm)

Pin (dBm)	+2	+1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
Vo (dBmV)	28.0	28.0	28.6	28.7	28.0	26.9	26.0	26.2	26.6	26.2	24.0	21.5	19.4
CNR (dB)	57.0	56.1	55.3	54.4	53.5	52.6	51.4	50.1	48.7	47.4	46.0	44.3	43.0
CTB (dB)	62.3	64.2	69.1	70.0	72.0	72.4	70.8	68.1	69.4	68.8	68.5	67.6	69.4
CSO (dB)	61.2	62.1	67.4	67.9	68.9	68.8	67.1	68.6	65.1	66.1	66.6	65.5	68.6

Remark: 1、 Test condition: PAL-D59CH, OMI=3.8%

2、 Built-in PAD=-0dB attenuation

7.4 DIGITAL TV TEST DATA (Pin=+2.0dBm~-20.0dBm)

Pin (dBm)	Vo (dBmV)	MER	BER		Pin (dBm)	Vo (dBmV)	MER	BER	
			POST	PRE				POST	PRE
+2.0	30.5	38.2	<1.0E-9	<1.0E-9	-10.0	23.1	37.7	<1.0E-9	<1.0E-9
+1.0	30.2	38.5	<1.0E-9	<1.0E-9	-11.0	22.4	37.4	<1.0E-9	<1.0E-9
+0.0	30.3	38.8	<1.0E-9	<1.0E-9	-12.0	19.5	37.2	<1.0E-9	<1.0E-9
-1.0	30.9	38.9	<1.0E-9	<1.0E-9	-13.0	18.0	36.6	<1.0E-9	<1.0E-9
-2.0	30.9	38.9	<1.0E-9	<1.0E-9	-14.0	16.0	36.1	<1.0E-9	<1.0E-9
-3.0	30.5	38.7	<1.0E-9	<1.0E-9	-15.0	13.5	35.0	<1.0E-9	<1.0E-9
-4.0	29.3	38.6	<1.0E-9	<1.0E-9	-16.0	11.4	33.4	<1.0E-9	<1.0E-9
-5.0	29.9	38.5	<1.0E-9	<1.0E-9	-17.0	9.3	31.5	<1.0E-9	<1.0E-9
-6.0	20.2	38.5	<1.0E-9	<1.0E-9	-18.0	7.5	29.4	<1.0E-9	4.9E-9
-7.0	20.2	38.4	<1.0E-9	<1.0E-9	-19.0	5.4	27.3	<1.0E-9	1.3E-6
-8.0	28.4	38.2	<1.0E-9	<1.0E-9	-20.0	3.9	26.1	<1.0E-9	1.3E-5
-9.0	26.0	38.1	<1.0E-9	<1.0E-9					

Remark :Test condition: 1、 Teat Signal: MER: 38.0(dB)、 BER: <1.0E-9

2、 Channel Load: <10CH Analog TV 、 Digital QAM



Provided by: Mega Hertz 800-883-8839 info@go2mhz.com www.go2mhz.com

