

BG9244x-LE series
(10 LED display optical power)
FTTB Out-door AGC Optical Receiver

Technical Specification

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1.0 PRODUCT DESCRIPTION

BG9244x-LE is a type of out-door optical receiver . The product builds-in RF interstage gain adjustment and equalization. Users can choose one-way or two-way high output level with the insert. The product is used in FTTB、FTTN、FTTC and used as a Rx unit of CATV. It is a type of receiver with high flexibility 、excellent performance and P/P ratio.

BG9244x-LE has four types:

BG9244A-xx-NC : operating in 1260~1620nm wavelength , used in CATV system with analog TV channels.

BG9244D-xx-NC : operating in 1260~1620nm wavelength , used in CATV system with digital TV channels.

BG9244A-xx-WD : built-in CWDM,RFTV operation wavelength 1550nm,pass wavelength 1310/1490nm,(links EPON、 GPON ONU).

BG9244D-xx-WD : Built-in CWDM,RFTV operation wavelength 1550nm,pass wavelength 1310/1490nm,(links EPON、 GPON ONU).

2.0 PRODUCT FEATURES

- Excellent AGC features: Pin: $-7.0\text{dBm} \sim +2\text{dBm}$, $\Delta V_o : \leq \pm 1.0\text{dB}$.
- Output level and slope are continuously adjustable in range of $0 \sim 15\text{dB}$
- Ten-segment input optical power indication
- Four different configurations are applicable for different Networks:
 - BG9244A-LE-NC is applicable for analog TV
 - BG9244D-LE-NC is applicable for digital TV
 - BG9244A-LE-WD is applicable for FTTx PON
 - BG9244D-LEWD is applicable for FTTX PON
- Aluminum-casting housing, waterproof, for FTTB、FTTC.
- Excellent function and reliability
- Excellent P/P ratio

3.0 MAIN APPLICATION

- FTTB、FTTC
- HFC

4.0 TECHNICAL INDEX

Performance			Index	Supplement
Optical feature	CATV Operating wavelength	(nm)	1260~1620	BG9244x-LE-NC
			1540~1560	BG9244x-LE-WD
	Input wavelength	(nm)	1310, 1490/1550	
	Pass wavelength	(nm)	1310, 1490	
	Channel Isolation	(dB)	>40	
	Responsibility	(A/W)	>0.85	1310nm
			>0.9	1550nm
	Optical AGC control	(dBm)	-7 ~ +2	Vo: 104 dBμV ±1.0
	Receiving power	(dBm)	-10~+2	Analog TV
			-17~+2	Digital TV
Optical return loss	(dB)	≥50		
Optical fiber connector		LC/APC	SC/APC , FC/APC	
RF feature	Work bandwidth	(MHz)	45 ~ 862	
	Flatness	(dB)	≤±1.0	
	Output level	(dBμV)	104 ±1.0	Pin:-7.0~+2.0dBm
	AGC feature	(dB)	≤±1.0	Pin:-7.0~+2.0dBm
	Output level adjust	(dB)	-15~0	
	Output slope adjust	(dB)	-15~0	
	Return loss	(dB)	≤14	47 ~ 862MHz
	Output impedance	(Ω)	75	
	RF port		F-Female	
Analog TV Link feature	Test channel		59CH(PAL-D)	47-550MHz
			Digital QAM	550-862 MHz
	OMI	(%)	3.8	
	CNR1	(dB)	54.6	Pin = -2.0dBm
	CNR2	(dB)	48.6	Pin = -7.0dBm
	CTB	(dB)	≤-70	Pin = -2.0dBm
	CSO	(dB)	≤-65	Pin = -2.0dBm
	HUM	(dB)	≤-60	
Digital TV Link feature	Test channel		<10 CH	
			Digital QAM	47-862MHz
	MER	(dB)	35 (Remark1)	Pin : -7.0~+2.0dBm
			30	Pin = -16.0dBm
	BER	(dB)	<1.0E-9	Pin : -20.0~+2.0dBm
POST	(dB)	<1.0E-9	Pin : -16.0~+2.0dBm	
General feature	Power supply	(V)	AC(130~265)V	AC (35~85)V
	Power Consume	(W)	≤15	
	Work temp	(°C)	-40~60	
	Storage temp	(°C)	-40~65	
	Relative humidity	(%)	5 ~ 59	

Size	(mm)	185×140×91	(W)×(D)×(H)
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Remark: 1.CATV test signal: MER: 35.1dB、BER: <1.0E-9

5.0 TEST DATA

5.1 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(dB μ V)	105.5	106.9	107.0	106.7	107.1	107.2	106.7	107.0	106.7	106.8	104.9	102.9	100.5
CNR(dB)	57.2	57.0	56.0	55.6	54.6	53.2	52.3	51.3	49.7	48.6	46.3	45.3	43.9
CTB(dB)	70.1	69.8	71.9	71.4	72.9	72.9	73.1	69.6	67.0	69.1	70.9	70.1	70.1
CSO(dB)	70.1	68.0	68.1	68.4	67.9	63.9	63.7	63.2	63.2	63.0	61.9	63.1	63.2

Remark: 1.Test signal: 47~550MHz 59CH (PAL-D), 550~862Mhz Digital QAM

2.Modulation: OMI=3.8%

3.Output level is 0dB attenuate

5.2 Digital TV test data (Pin=+2.0dBm~-20.0dBm)

Pin(dBm)	Vo(dB μ V)	MER	POST	BRE	Pin(dBm)	Vo(dB μ V)	MER	POST	BRE
+2.0	102.4	35.2	<1.0E-9	<1.0E-9	-10.0	97.3	34.7	<1.0E-9	<1.0E-9
+1.0	103.9	35.1	<1.0E-9	<1.0E-9	-11.0	95.8	34.5	<1.0E-9	<1.0E-9
0	103.5	35.1	<1.0E-9	<1.0E-9	-12.0	93.4	33.9	<1.0E-9	<1.0E-9
-1.0	102.8	35.2	<1.0E-9	<1.0E-9	-13.0	91.8	33.5	<1.0E-9	<1.0E-9
-2.0	103.6	35.0	<1.0E-9	<1.0E-9	-14.0	89.6	32.8	<1.0E-9	<1.0E-9
-3.0	103.5	35.1	<1.0E-9	<1.0E-9	-15.0	87.8	31.8	<1.0E-9	<1.0E-9
-4.0	103.2	35.1	<1.0E-9	<1.0E-9	-16.0	86.1	30.7	<1.0E-9	<1.0E-9
-5.0	103.6	35.1	<1.0E-9	<1.0E-9	-17.0	83.2	28.8	5.5E-8	<1.0E-9
-6.0	103.8	35.1	<1.0E-9	<1.0E-9	-18.0	81.8	27.5	4.0E-7	<1.0E-9
-7.0	103.7	35.0	<1.0E-9	<1.0E-9	-19.0	79.5	25.8	1.7E-5	<1.0E-9
-8.0	102.2	34.9	<1.0E-9	<1.0E-9	-20.0	77.6	24.4	1.7E-4	<1.0E-9
-9.0	99.9	34.8	<1.0E-9	<1.0E-9					

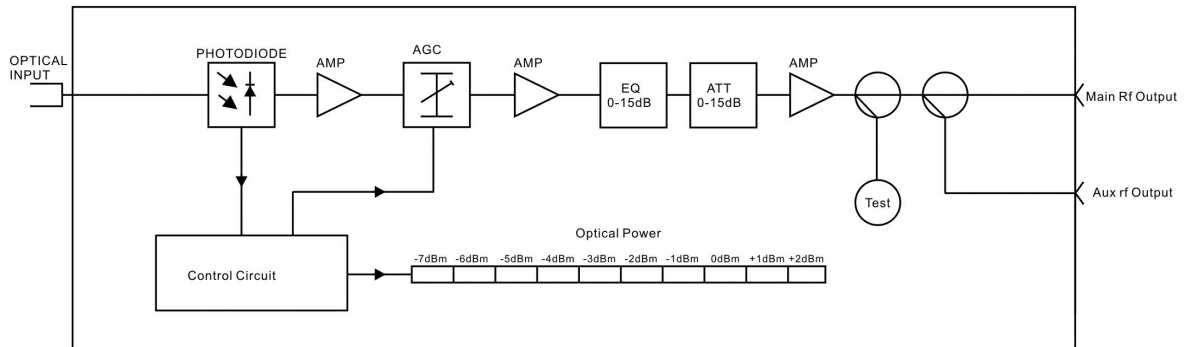
Remark: 1. Test signal: MER: 35.4(dB)、BER: <1.0E-9

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

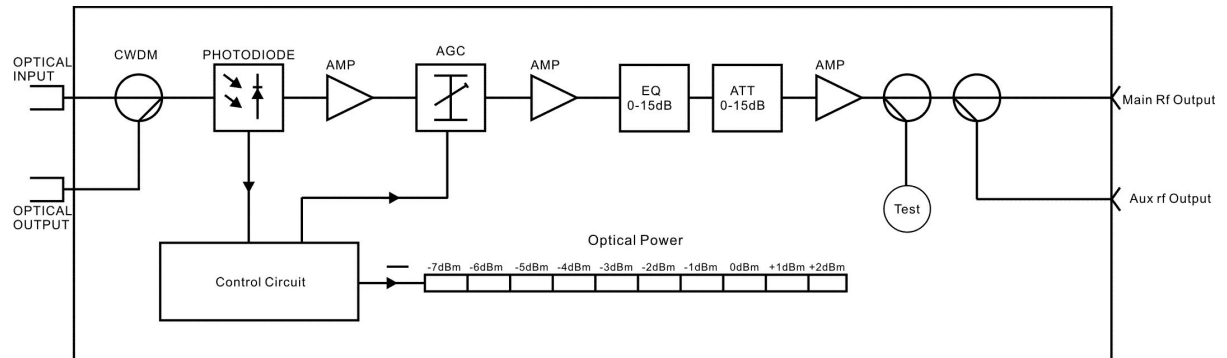
3.Output level is 0dB attenuate

6.0 BLOCK DIAGRAM

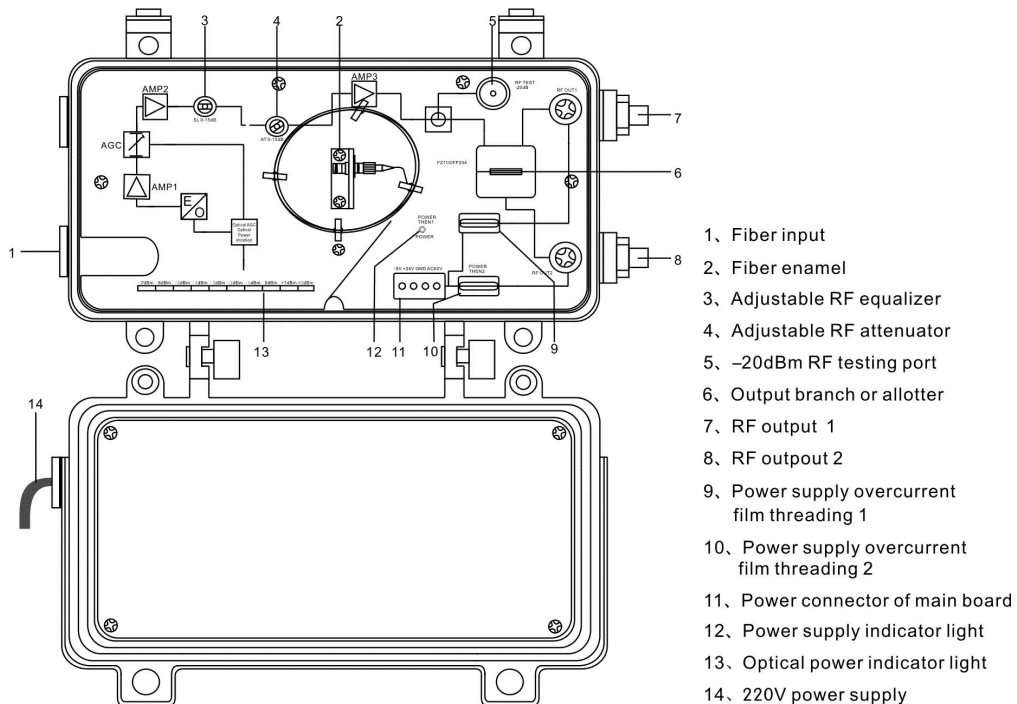
6.1 BG9244x-LE-NC



6.2 BG9244x-LE-WD



7.0 STRUCTURE DIAGRAM



8.0 PRODUCE SERIES

Model	Applicable networks	CWDM	Display
BG9244A-LE-NC	Applies to analog TV and digital TV	Without CWDM	10 LED display
BG9244A-LE-WD		Built-in CWDM applies to FTTx PON	10 LED display
BG9244D-LE-NC	Applies to CATV network with digital TV	Without CWDM	10 LED display
BG9244D-LE-WD		Built-in CWDM applies to FTTx PON	10 LED display

9.0 ORDER INFORMATION

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FTTB	ALC (AGC)	Work wavelength (Mhz)	Number of RF output		Output level		Applicable network		Parameter display		CWDM		Optical connector		Power supply		
		9	47-862	2	2ports	44	104(dBμV)	A	AnalogTV	LE	10 LED Display	NC	Without	LA	LP/APC	11	110VAC
		1	47-1000					D	DigitalTV			WD	Built-in CWDM	SA	SC/APC	22	220VAC
		2	47-1200											FA	FC/APC	60	60VAC