SBGL1000
Low power SNMP AGC FTTB Optical Receiver

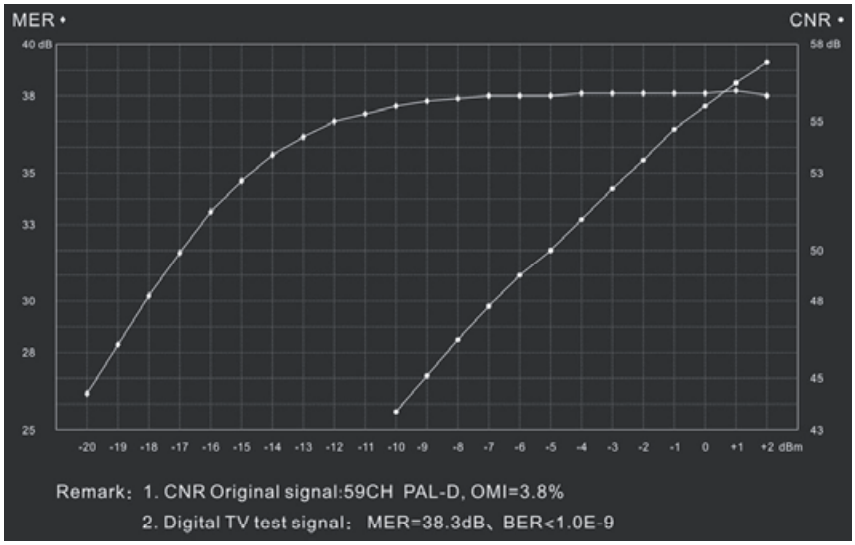
Product description

SBGL1000 product series, is a low power consumption, high index, with SNMP network management, AGC, full function FTTB optical receiver. 1000 series' shells are aluminum wall hung (without rain-proof), Nixie tube displaying parameters.

SBGL1000 series have many kinds of configurations can be optional:

1. Operation bandwidth: SBGL1000-086 operation bandwidth 47~862MHz, SBGL1000-100 operation bandwidth 47~1050MHz,
2. RF output ports: SBGL1240, two RF output ports, each 100dBμV, SBGL1144, one RF output port, with 104 dBμV,
3. SNMP network management can be optional (SBGL1000/N), and can achieve remote control,
4. Built-in CWDM can be optional, multiplex 1310/1490nm data stream,
5. Built-in power supply or external power supply can be optional, external power supply is convenience to repair.

CNR, MER Degradation Chart



Product features

- Excellent AGC performance: Pin: –7.0dBm~+2dBm, ΔVo : ≤±0.5dB
- Low noise (3.8% modulation, -8dBm receive, CNR≥46dB)
- Output level and slope can continuation adjustment
- High level output: one output port 104 dBμV (AGC, PAD=6dBm), max output level 110dBμV (PAD=0dBm)
  Two output ports 100 dBμV (AGC, PAD=6dBm), max output level 106 dBμV (PAD=0dBm)
- SNMP network management optional, can achieve remote management and control
- Nixie tube displaying all kinds of technical parameters of the overall unit, convenience to construction and adjustment
- Adapts MMIC Amplifier, low power consumption
- The industry's most excellent price performance

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Model explanation

SBGL1 [Number of RF outputs][Output level] / [Network management] – [Work bandwidth] – [CWDM] – [Power supply] – [Connector]

Product series	S	Analogue optical
FTTx Receiver	B	FTTB
	H	FTTH
	P	FTTP
ALC (AGC)	G	AGC
Type	L	MMIC Amplifier
Exterior	1	1 series
	2	2 series
	3	3 series
Number of RF outputs	1	1 port
	2	2 ports
Output level	44	44dBmV (104dBμV)
	40	40dBmV (100dBμV)
Network management	O	Without
	N	With
Work bandwidth	086	47~862 MHz
	100	47~1050 MHz
CWDM	NC	Without
	WD	Build-in CWDM
	WF	Build-in Filter
Power supply	IA	Build-in power cord (American Standard)
	IE	Build-in power cord (European Standard)
	IC	Build-in power cord (China Standard)
	OA	External adapter (American Standard)
	OE	External adapter (European Standard)
	OC	External adapter (China Standard)
Connector	LA	LC/APC
	SA	SC/APC
	FA	FC/APC

Technical index

Performance			Index	Supplement
Optic feature	CATV work wavelength	(nm)	1260~1620	Without CWDM
			1540~1560	SBGL1000-WD, SBGL1000-WF
	Input wavelength	(nm)	1310, 1490/1550	
	Pass wavelength	(nm)	1310, 1490	
	Channel Isolation	(dB)	≥40	
	Responsivity	(A/W)	≥0.85	1310nm
			≥0.9	1550nm
	Optical AGC control	(dBm)	-7~+2	Δ Vo≤±0.5dB
	Receiving power	(dBm)	-10~+2	Analog TV
			-16~+2	Digital TV
	Return loss	(dB)	≥50	
	Optical fiber connector		LC / APC	SC / APC, FC / APC
RF feature	Work bandwidth	(MHz)	47~862	SBGL1000 / x-086
			47~1050	SBGL1000 / x-100
	Flatness	(dB)	≤±0.75	SBGL1000 / x-086 (47~862MHz)
			≤±1.0	SBGL1000 / x-100 (47~1050MHz)
	RF number of output port		1	SBGL1144
			2	SBGL1240
	Nominal Output level	(dBμV)	100	SBGL1240
			104	SBGL1144
	Max Output level	(dBμV)	106	SBGL1240
			110	SBGL1144
	AGC feature	(dB)	≤±0.5	Pin:-7.0~+2.0dBm
	EQ ADJ	(dB)	-20~0	
	Output level adjust	(dB)	0~15	
	Return loss	(dB)	>16	47~862MHz
			>12	47~1050MHz
	Input impedance	(Ω)	75	
	RF port	(dB)	F-Female	
Analog TV connect feature	Test channel		59CH(PAL-D)	47-550 MHz Analog
			Digital QAM	550-862 MHz
	OMI	(%)	3.8	
	CNR1	(dB)	≥53.5	Pin: -2dBm
	CNR2	(dB)	≥47.8	Pin: -7dBm
	CTB	(dB)	≤-63	Pin: -2dBm
	CSO	(dB)	≤-67	Pin: -2dBm
	HUM	(dB)	≤-60	
Digital TV connect feature	Test channel		< 10 CH	Analog
			Digital QAM	47-862 MHz
	MER	(dB)	38 (Remark1)	Pin : -7.0~+2.0dBm
			33.5	Pin = -16.0dBm
	PRE	(dB)	<1.0E-9	Pin : -20.0~+2.0dBm
General feature	Power supply	(V)	AC(130~265)V	Built-in power
			DC:8V, 0.75A	External power
	Power Consume	(W)	≤15	
	Work temp.	(°C)	-40~60	
	Storage temp.	(°C)	-40~65	
	Operating relative humidity	(%)	5~95	
	Size (W)x(D)x(H)		6.8×4.8×1.7 (") 174×123×42 (mm)	Built-in power
			4.8×4.8×1.7 (") 118×123×42 (mm)	External power

Remark: 1. CATV test signal: MER: 38.3dB, BER: <1.0E-9

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Product series

Type	Number of ouput port	Output level	SNMP	Work ban-dwidth	CWDM
SBGL1240 / O-086-NC	Dual ports	100 dBµV	Without	47~862MHz	Without
SBGL1144 / O-086-NC	Single port	104 dBµV			
SBGL1240 / N-086-NC	Dual ports	100 dBµV	With		
SBGL1144 / N-086-NC	Single port	104 dBµV			
SBGL1240 / O-086-WD	Dual ports	100 dBµV	Without		With
SBGL1144 / O-086-WD	Single port	104 dBµV			
SBGL1240 / N-086-WD	Dual ports	100 dBµV	With		
SBGL1144 / N-086-WD	Single port	104 dBµV			
SBGL1240 / O-100-NC	Dual ports	100 dBµV	Without	47~1050MHz	Without
SBGL1144 / O-100-NC	Single port	104 dBµV			
SBGL1240 / N-100-NC	Dual ports	100 dBµV	With		
SBGL1144 / N-100-NC	Single port	104 dBµV			
SBGL1240 / O-100-WD	Dual ports	100 dBµV	Without		With
SBGL1144 / O-100-WD	Single port	104 dBµV			
SBGL1240 / N-100-WD	Dual ports	100 dBµV	With		
SBGL1144 / N-100-WD	Single port	104 dBµV			

Test Data

Analog TV test data (Pin=+2.0dBm~-10.0dBm)

Pin(dBm)	+2	+1	0	-1	-2	-3
Vo(dBµV)	100.4	100.2	100.8	100.0	99.7	100.2
CNR(dB)	57.3	56.5	55.6	54.7	53.5	52.4
CTB(dB)	62.4	62.8	63.0	63.1	63.1	63.1
CSO(dB)	62.5	63.1	63.8	67.4	67.0	70.7

Pin(dBm)	-4	-5	-6	-7	-8	-9	-10
Vo(dBµV)	100.3	100.2	100.1	100.3	99.1	97.2	95.0
CNR(dB)	51.2	50.0	49.0	47.8	46.5	45.1	43.7
CTB(dB)	64.7	63.5	66.0	66.4	63.7	65.7	66.6
CSO(dB)	69.9	68.5	66.3	69.5	64.7	63.1	67.5

Remark1. Test condition: 1. PAL-D59CH, OMI=3.8% 2. Test type: SBGL1240 3. Built-in PAD=6dB

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

Pin(dBm)	Vo(dBµV)	MER	BER	
			POST	BRE
+2.0	101.8	38.0	<1.0E-9	<1.0E-9
+1.0	101.1	38.2	<1.0E-9	<1.0E-9
0	101.7	38.1	<1.0E-9	<1.0E-9
-1.0	101.8	38.1	<1.0E-9	<1.0E-9
-2.0	101.7	38.1	<1.0E-9	<1.0E-9
-3.0	101.3	38.1	<1.0E-9	<1.0E-9
-4.0	101.1	38.1	<1.0E-9	<1.0E-9
-5.0	101.2	38.0	<1.0E-9	<1.0E-9
-6.0	101.1	38.0	<1.0E-9	<1.0E-9
-7.0	100.8	38.0	<1.0E-9	<1.0E-9
-8.0	100.8	37.9	<1.0E-9	<1.0E-9
-9.0	98.7	37.8	<1.0E-9	<1.0E-9
-10.0	96.9	37.5	<1.0E-9	<1.0E-9
-11.0	94.7	37.3	<1.0E-9	<1.0E-9
-12.0	92.8	37.0	<1.0E-9	<1.0E-9
-13.0	91.0	36.4	<1.0E-9	<1.0E-9
-14.0	88.7	35.7	<1.0E-9	6.6E-7
-15.0	87.0	34.7	<1.0E-9	3.7E-5
-16.0	85.1	33.5	<1.0E-9	2.2E-4
-17.0	83.2	31.9	<1.0E-9	4.9E-4
-18.0	81.1	30.2	<1.0E-9	8.0E-4
-19.0	79.0	28.3	<1.0E-9	1.1E-3
-20.0	76.9	26.4	<1.0E-9	1.5E-3

Remark: 1. Test signal: MER: 38.3(dB), BER: <1.0E-9 2. Channel negative nuclear: 210CH Analog TV, Digital QAM

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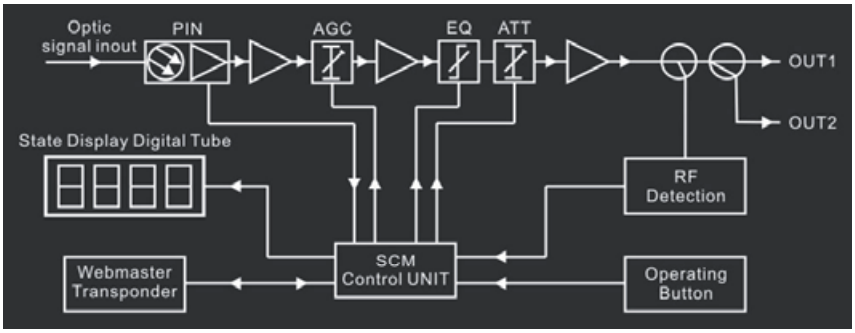
Functional block diagram



Function dispaly and operation

Mode: The control mode choice button , all 1 modes

▼ : UP button, increase the attenuation or equilibrium quanity on ATT or EQ mode.

▲ : Down button, Increase the attenuation or equilibrium quantity on ATT

Following diagram to explain for detailed: