

H9122G FTTH CATV Optical AGC Receiver

PRODUCT DESCRIPTION

Guangtai H9122G, operating bandwidth of 47~ 1002MHz, is a suitable digital television FTTH applications, ultra-low optical receiver, Whether the machine is used analog television or digital television, have high reception sensitivity and excellent intermodulation distortion index. Due to the built-in optical AGC, at high optical power receiver, played limiting output, so H9122G in the received optical power over a large dynamic range of +2 dBm ~-21dBm, and have excellent properties.

Digital TV FTTH applications, the H9122G can save a lot of optical fiber amplifier power resources. For operators, can greatly reduce the cost of building the network. Suitable for rural power digital TV, FTTH, triple play of wide application.

H9122G/WD1: Built-in CWDM, suitable for single-fiber triple wavelength system, RFTV operating wavelength 1550nm $\pm$ 10, pass wavelength 1310/1490nm, can conveniently connect the ONU of EPON, GPON.

H9122G/WD2: Built-in CWDM, suitable for single-fiber triple wavelength system, RFTV operating wavelength 1550nm $\pm$ 10, pass wavelength 1270/1310/1490/1577nm, can conveniently connect the ONU of GPON, XG-PON & XGS-PON.



PRODUCT FEATURES

- ▶ Wide dynamic receiving optical power range: within Pin=-15, MER $\geq$ 36.7dB
- ▶ Applicable GPON, EPON, XGS-PON, compatible with any FTTx PON technology
- ▶ Can save a large number of optical power resource, greatly reduce the network configuration cost
- ▶ Metal case, offer safeguard for optoelectronic sensitive devices
- ▶ Excellent cost performance in area

MAIN APPLICATION

- ▶ Digital TV FTTH
- ▶ Integration of three networks
- ▶ FTTH PON

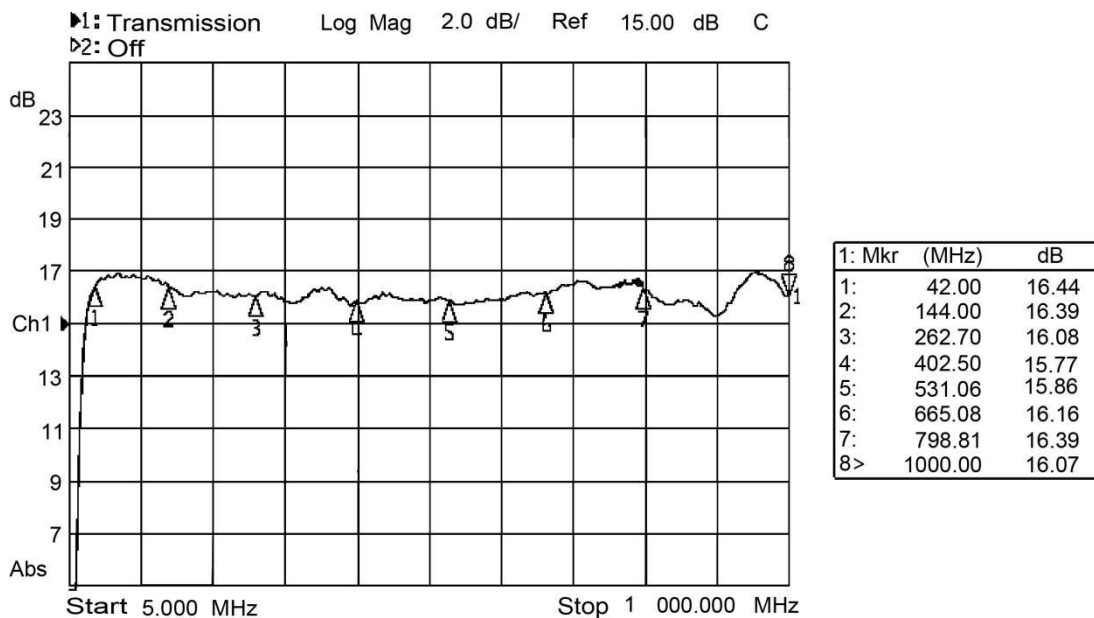
STATUS INDICATION

- ▶ Red : >+2dBm
- ▶ Green : +2~-16dBm
- ▶ Orange : -16~-20dBm
- ▶ Red : <-20dBm

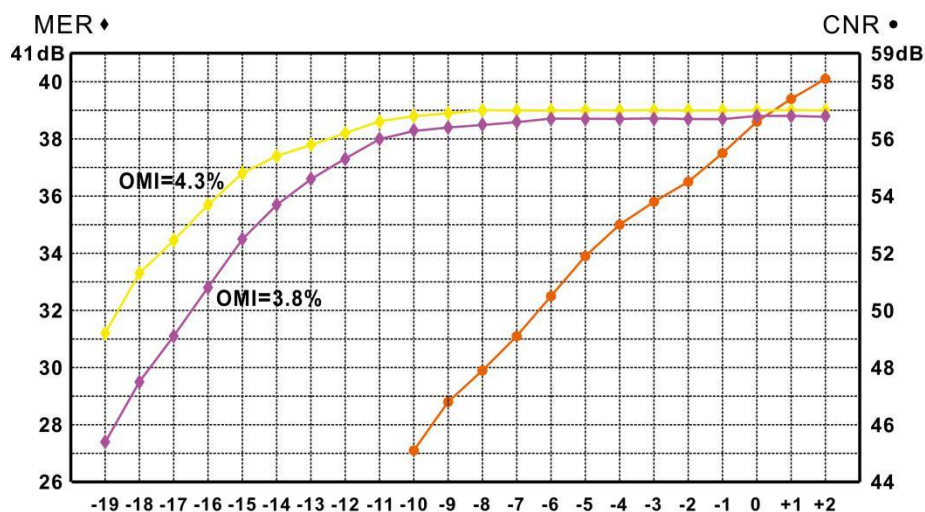
TECHNICAL INDEX

Performance			Index	Supplement
Optic feature	Work wavelength	(nm)	1260~1620	H9122G
			1540~1563	H9122G/WF, H9122G/WD
	Input wavelength	(nm)	1310, 1490, 1550	Build-in WDM
	Receive wavelength	(nm)	1550	
	Bypass wavelength	(nm)	1310, 1490	H9122G/WD1
			1270,1310,1490,1577	H9122G/WD2
	Responsibility	(A/W)	≥0.9	
	Input optical power	(dB)	+0 ~ -10	Analog TV
			+2~-18	Digital TV
	Optical return loss	(dB)	≥55	
	Optical fiber connector		SC/APC	LC/APC optional
	Optical fiber type		Single mode	
RF feature	Frequency range	(MHz)	47 ~ 1002	
	Flatness	(dB)	≤±1.0	
	Output level	(dBμV)	82	Pin=0~-10dBm
	RF Return loss	(dB)	≥16	
	Output impedance	(Ω)	75	
	AGC stability	(dB)	±1dB	
	RF connector		F-Female	
	CNR	(dB)	44	Analog TV @ pin=-10dBm
	CTB	(dB)	-60	
	CSO	(dB)	-55	
Digital TV Link feature	MER	(dB)	30	@Receiving
	BER	(dB)	<1.0E-9	
General feature	Power supply	(V)	+5VDC	
	Power Consume	(W)	≤1.5	
	Size	(mm)	50*88*22	(W)×(D)×(H)

FLATNESS



CNR, MER DEGRADATION TABLE



Note: 1. CNR Test conditions: 59CH PAL-D, OMI = 3.8%

2. MER test conditions: The Original Signal : MER = 39.0dB, BER <1.0E-9,

Test Frequency : 47 ~ 862MHz Full Channel, (The Curve is: 858. 00MHz) .

Red curve: OMI=3.8%

Brown curve: OMI=4.3%

3. Digital television Receiving Low Light, appropriate to increase the system modulation (OMI), can greatly improve the MER degradation.

ANALOG TV TEST DATA (PAL-D59CH, OMI = 3.8%)

Pin(dBm)	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
Vo(dBμV)	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0
PAD(dB)	0	0	0	0	0	0	0	0	0	0	0
CNR(dB)	56.7	55.4	54.6	53.8	53.0	51.9	50.4	50.1	47.9	46.8	45.1
CTB(dB)	70.9	72.1	71.1	75.0	74.0	72.0	70.6	69.3	68.5	67.6	65.7
CSO(dB)	70.9	70.7	70.3	72.8	72.0	68.6	65.4	67.4	69.8	65.3	66.7

DIGITAL TV TEST DATA (PIN=+2.0DBM ~ -19.0DBM)

Pin (dBm)	Vo (dBm)	MER	BER	
			POST	PRE
+2.0	80.6	39.0	<1.0E-9	<1.0E-9
+1.0	80.4	39.0	<1.0E-9	<1.0E-9
+0.0	80.2	39.0	<1.0E-9	<1.0E-9
-1.0	80.1	39.0	<1.0E-9	<1.0E-9
-2.0	79.5	39.0	<1.0E-9	<1.0E-9
-3.0	79.3	39.0	<1.0E-9	<1.0E-9
-4.0	79.0	39.0	<1.0E-9	<1.0E-9
-5.0	78.8	39.0	<1.0E-9	<1.0E-9
-6.0	78.6	39.0	<1.0E-9	<1.0E-9
-7.0	78.2	39.0	<1.0E-9	<1.0E-9
-8.0	74.0	39.0	<1.0E-9	<1.0E-9

Pin (dBm)	Vo (dBm)	MER	BER	
			POST	PRE
-9.0	72.1	38.9	<1.0E-9	<1.0E-9
-10.0	70.9	38.8	<1.0E-9	<1.0E-9
-11.0	68.5	38.6	<1.0E-9	<1.0E-9
-12	66.4	37.8	<1.0E-9	<1.0E-9
-13	65.2	37.6	<1.0E-9	<1.0E-9
-14	62.9	37.4	<1.0E-9	<1.0E-9
-15	60.7	36.8	<1.0E-9	<1.0E-9
-16	58.7	35.7	<1.0E-9	<1.0E-9
-17	57.1	34.5	<1.0E-9	<1.0E-9
-18	55.1	33.3	<1.0E-9	<1.0E-9
-19	53.1	31.2	<1.0E-9	<1.0E-9

PRODUCT SERIES

Model	Input wavelength	CATV operating wavelength	Data pass wavelength	Fiber connector
H9122G	1310 or 1550nm	1260~1620nm	-	SC/APC
H9122G/WF	1310, 1490 / 1550nm	1540~1563nm	-	SC/APC
H9122G/WD1	1310, 1490 / 1550nm	1540~1563nm	1310/1490nm	LC/APC
H9122LG/WD2	1270/1310/1490/1550/1577nm	1540~1563nm	1270/1310/1490/1577nm	LC/APC

MODEL EXPLANATION

H 9 1 22 G / □□ - □□

FTTx Receiver		Work bandwidth		Number of RF output		Output level (Pin=0-10dBm)		ALC (AGC)	CWDM		Optical connector		
H	FTTH	9	47~862MHz	1	1Port	22	25dBmV		NC	Without	LA	LP/APC	
P	FTTP								WD1	Build-in CWDM	LP	LC/UPC	
B	FTTB								WD2	Build-in CWDM	SA	SC/APC	
									WF	Build-in Filter	SP	SC/UPC	

Note: WD1:Pass wavelength 1310/1490nm

Note: WD1:Pass wavelength 1310/1490nm

WD2:Pass wavelength 1270/1310/1490/1577nm