H1222G (47~1200MHz)

FTTH CATV AGC Optical Receiver

PRODUCT DESCRIPTION

Guangtai H1222G, the operating bandwidth of 47 ~ 1200MHz, is a low power, high performance, cost-effective triple play, FTTH CATV optical receiver, Whether used in analog television or digital television. Due to the built-in optical AGC, at high optical power receiver, played limiting output, so H1222G in the received optical power over a large dynamic range of +2 dBm ~ -20dBm, and have excellent properties.

H1222G for Analog TV, in Pin =-10dBm when, Vo ≥ 76dBμV, CNR ≥ 45.2dB.

H1222G for Digital TV, in Pin =-15dBm when, Vo ≥ 66.6dBμV, MER ≥ 36.8dB.

H1222G for Digital TV, in Pin =-20dBm when, Vo ≥ 57.8dBμV, MER ≥ 30.2dB.

Triple play, fiber to the home, using the H1222G can save a lot of optical fiber amplifier power resources. For operators, can greatly reduce the cost of building the network.

H1222G optical port mode and form of the following three selection:

H1222G :operating wavelength 1260~1620nm. A-Type

H1222G/WD: Built-in CWDM, suitable for single-fiber triple wavelength system, RFTV operating wavelength 1550nm, passwavelength 1310/1490nm, can conveniently connect the ONU of EPON, GPON. B-Type

H1222G/WF: built-in 1310/1490nm filter,suitable for single-fiber triple wavelength System, RFTV operating wavelength 1550nm. A-Type

PRODUCT FEATURES

▶Extra-low noise(3.8% modulate, -10dBm receive, CNR ≥ 45.2dB)

▶Wide dynamic receiving optical power range: within Pin=-15, MER≥36.8dB

▶Applicable GPON, EPON, compatible with any FTTx PON technology

▶Can save a large number of optical power resource, greatly reduce the network configuration cost

▶In the range of 47~1200MHz, all have good flatness (Fl≤± 1.0dB)

▶Metal shell, supply safeguards to opto-electrical sensing device

▶High output level can supply for many users

▶Low power consumption, high cost performance

MAIN APPLICATION

▶Digital TV FTTH

▶Integration of three networks

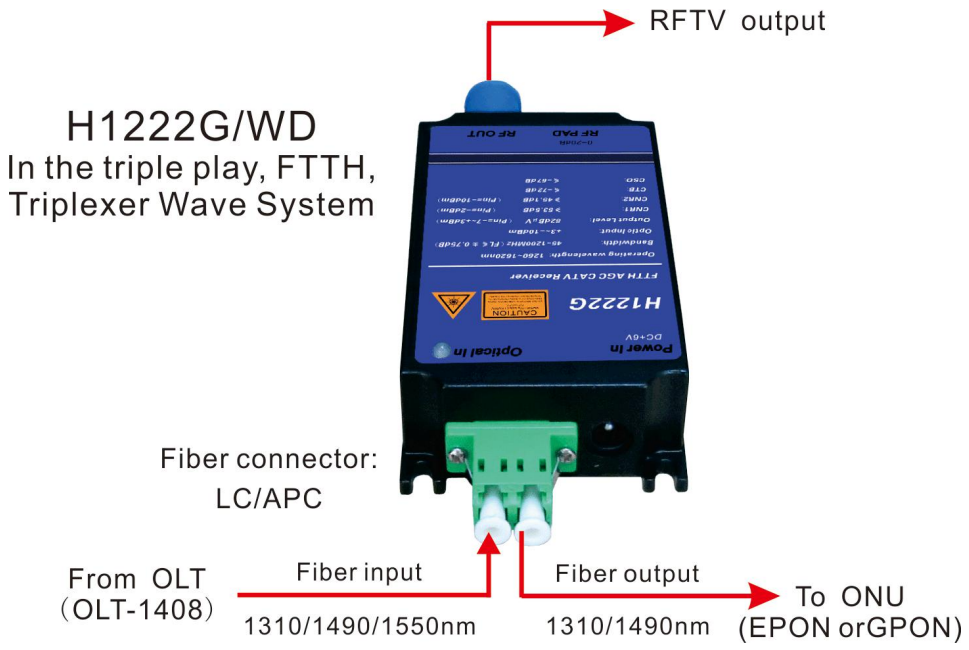
▶FTTH PON

STATUS INDICATION

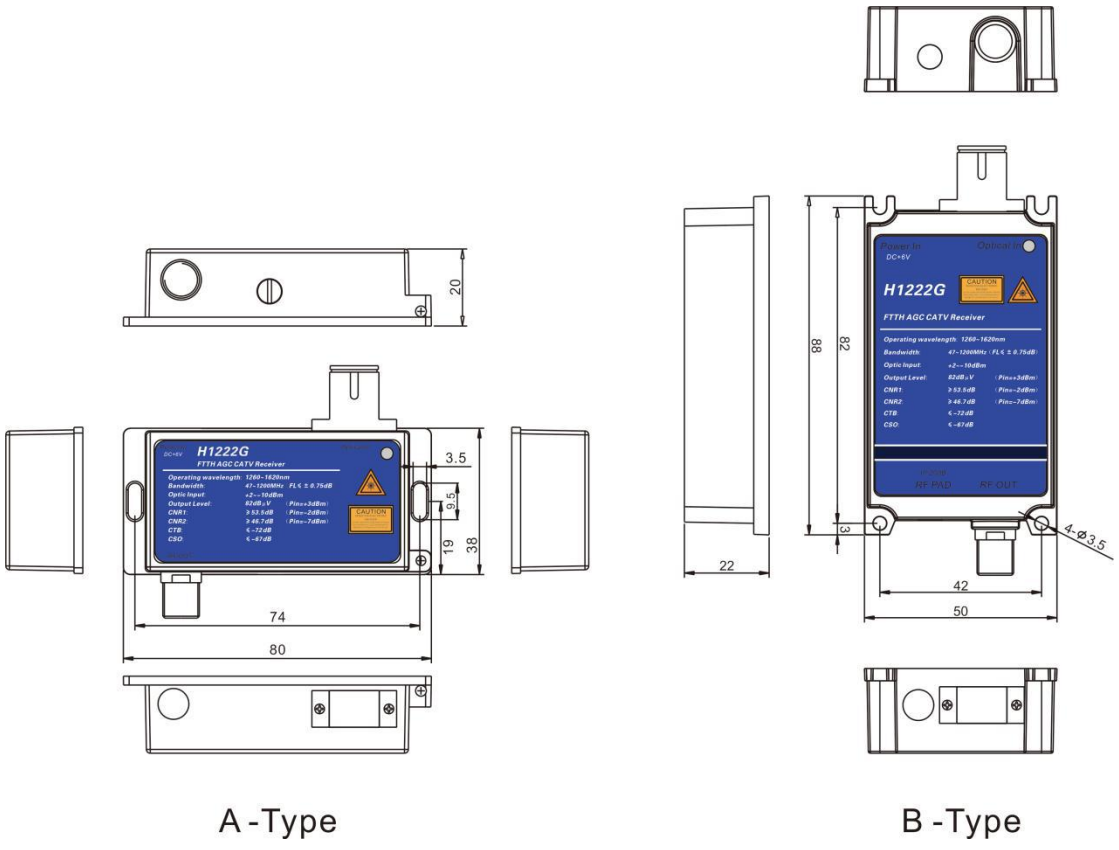
▶Red :	>0dBm
▶Green :	0~-7dBm
▶Orange :	-7~-10dBm
▶Red :	<-10dBm

Note: Users can set the order request

H1222G/WD THE APPLICATION IN SINGLE-FIBER THREE-WAVELENGTH



DIMENSIONS



A -Type

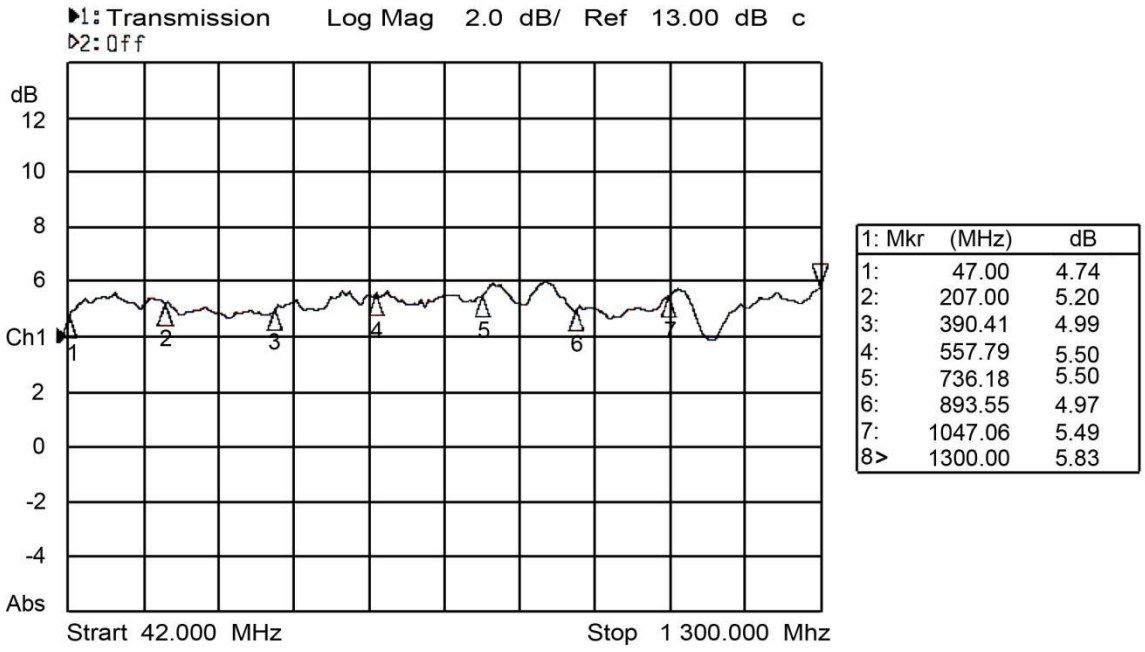
B -Type

TECHNICAL INDEX

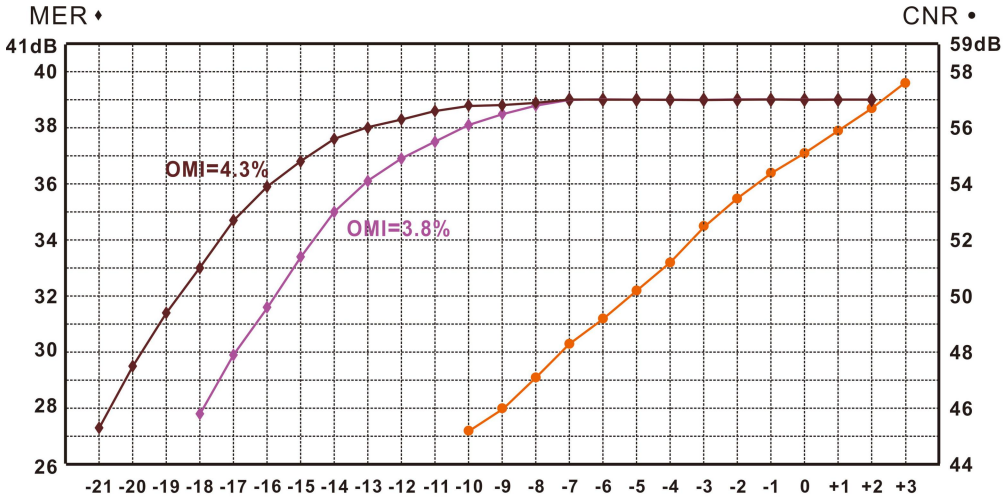
Performance			Index	Supplement
Optic feature	CATV work wavelength	(nm)	1260~1620	H1222G(A-Type)
			1540~1563	H1222G/WF, H1222G/WD(A&B Type)
	Pass wavelength	(nm)	1310,1490	H1222G/WD (B Type)
	Channel Isolation	(dB)	≥40	1550nm & 1490nm
	Responsivity	(A/W)	≥0.85	1310nm
			≥0.9	1550nm
	Receiving power	(dB)	+3~-10	Analog TV(CNR>45dB)
			+2~-20	Digital TV(MER>29dB)
	Optical return loss	(dB)	≥55	
	Optical fiber connector		SC/APC	H1222G, H1222G/WF
			LC/APC	H1222G/WD
RF feature	Work bandwidth	(MHz)	47~1200	
	Flatness	(dB)	≤±1.0	47 ~ 1200MHz
	Output level	(dBμV)	>82	Analog TV (Pin=+3.0~-7.0dBm)
			>82	Digital TV (Pin=-6dBm)
	AGC character (ΔVo)	(dB)	≤±1.0	Pin=+2.0~-8.0dBm
	Output level adjust	(dB)	0~18	MGC
	Return loss	(dB)	≥14	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)	
	OMI	(%)	3.8	
	CNR1	(dB)	53.5	Pin=-2dBm
	CNR2	(dB)	45.2	Pin=-10dBm
	CTB	(dB)	≤-65	Pin:0~-10dBm
	CSO	(dB)	≤-62	Pin:0~-10dBm
Digital TV Link feature	OMI	(%)	4.3	
	MER	(dB)	≥36	Pin=-15.0dBm
			≥29	Pin=-20.0dBm

	BER	(dB)	<1.0E-9	Pin :+2.0~-20dBm
General feature	Power supply	(V)	DC+6V	±1.0V
	Power Consume	(W)	≤2	+6VDC/+12VDC, 220mA
	Work temp	(℃)	-20 ~ +55	
	Storage temp	(℃)	-40 ~ 85	
	Work relative temp	(%)	5 ~ 95	
	Size(W)×(D)×(H)	(mm)	38×80×22	A-Type
			50×88×22	B-Type

FLATNESS



CNR, MER DEGRADATTION 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)	+3	+2	-1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
Vo(dBμV)	84.5	84.6	84.5	83.9	84.4	84.1	83.9	83.7	83.8	83.9	83.2	81.0	78.9	76.9
CNR(dB)	57.6	56.7	55.9	55.1	54.4	53.5	52.5	50.6	50.2	49.2	48.3	47.1	46.0	45.2
CTB(dB)	70.9	69.1	68.1	72.9	70.1	67.2	67.1	67.7	68.8	68.4	65.0	67.5	69.0	65.1
CSO(dB)	64.8	65.0	65.8	66.0	67.7	65.9	66.5	62.6	62.8	63.3	61.5	62	62.3	64.1

DIGITAL TV TEST DATA (PIN=+2.0DBM ~ -20.0DBM)

Pin (dBm)	Vo (dBm)	MER	BER	
			POST	PRE
+2.0	85.6	39.0	<1.0E-9	<1.0E-9
+1.0	84.6	39.0	<1.0E-9	<1.0E-9
+0.0	84.4	39.0	<1.0E-9	<1.0E-9
-1.0	84.4	39.0	<1.0E-9	<1.0E-9
-2.0	84.1	39.0	<1.0E-9	<1.0E-9
-3.0	83.6	39.0	<1.0E-9	<1.0E-9
-4.0	84.0	39.0	<1.0E-9	<1.0E-9
-5.0	83.5	39.0	<1.0E-9	<1.0E-9
-6.0	83.7	39.0	<1.0E-9	<1.0E-9
-7.0	81.8	39.0	<1.0E-9	<1.0E-9
-8.0	80.2	38.9	<1.0E-9	<1.0E-9
-9.0	78.6	38.8	<1.0E-9	<1.0E-9

Pin (dBm)	Vo (dBm)	MER	BER	
			POST	PRE
-10.0	76.3	38.8	<1.0E-9	<1.0E-9
-11.0	74.1	38.6	<1.0E-9	<1.0E-9
-12.0	72.1	38.3	<1.0E-9	<1.0E-9
-13.0	70.4	37.8	<1.0E-9	<1.0E-9
-14.0	68.9	37.6	<1.0E-9	<1.0E-9
-15.0	66.6	36.8	<1.0E-9	<1.0E-9
-16.0	64.3	35.9	<1.0E-9	<1.0E-9
-17.0	62.1	34.7	<1.0E-9	<1.0E-9
-18.0	60.2	33.0	<1.0E-9	<1.0E-9
-19.0	58.7	31.4	<1.0E-9	<1.0E-9
-20.0	56.6	29.4	<1.0E-9	<1.0E-9

PRODUCT SERIES

Model	Input wavelength	CATV operating wavelength	Data pass wavelength	Fiber connector	Form
H1222G	1310 or 1550nm	1260~1620nm	-	SC/APC	A - Type
H1222G/WF	1310, 1490 / 1550nm	1540~1563nm	-	SC/APC	
H1222G/WD	1310, 1490 / 1550nm	1540~1563nm	1310/1490nm	LC/APC	B - Type

MODEL EXPLANATION