P9428 (47~862MHz)

Four outputs FTTP CATV optical receiver

PRODUCT DESCRIPTION

Guangtai P9428, the operating bandwidth of 47 ~ 862MHz, is a low power, high performance, cost-effective triple play, FTTH CATV optical receiver. Products with high sensitivity optical receiver tube and Huatai special low noise matching circuit..

P9428 for Analog TV, in Pin =-9dBm when, Vo ≥ 79dBμV, CNR ≥ 44dB.

P9428 for Digital TV, in Pin =-16dBm when, Vo ≥ 74dBμV, MER ≥ 34dB.

P9428 for Digital TV, in Pin =-20dBm when, Vo ≥ 66dBμV, MER ≥ 27dB.

Triple play, fiber to the home, using the P9428 can save a lot of optical fiber amplifier power resources. For operators, can greatly reduce the cost of building the network.

P9428optical port mode with following three types optional:

P9428 :operating wavelength 1260~1620nm.

P9428/WD: Built-in CWDM, suitable for single-fiber triple wavelength system, CATV operating wavelength 1550nm, passwavelength 1310/1490nm, can conveniently connect the ONU of EPON, GPON.

P9428/WF: built-in 1310/1490nm filter,suitable for single-fiber triple wavelength system, CATV operating wavelength 1550nm.

PRODUCT FEATURES

▶Extra-low noise(3.8% modulate, -9dBm receive, CNR ≥ 44dB)

▶Wide dynamic receiving optical power range: within Pin=-16, MER≥34dB

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

▶In the range of 45~862MHz, all have good flatness (FL ≤± 0.75dB)

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

▶High output level can supply for many users

▶Low power consumption, high cost performance

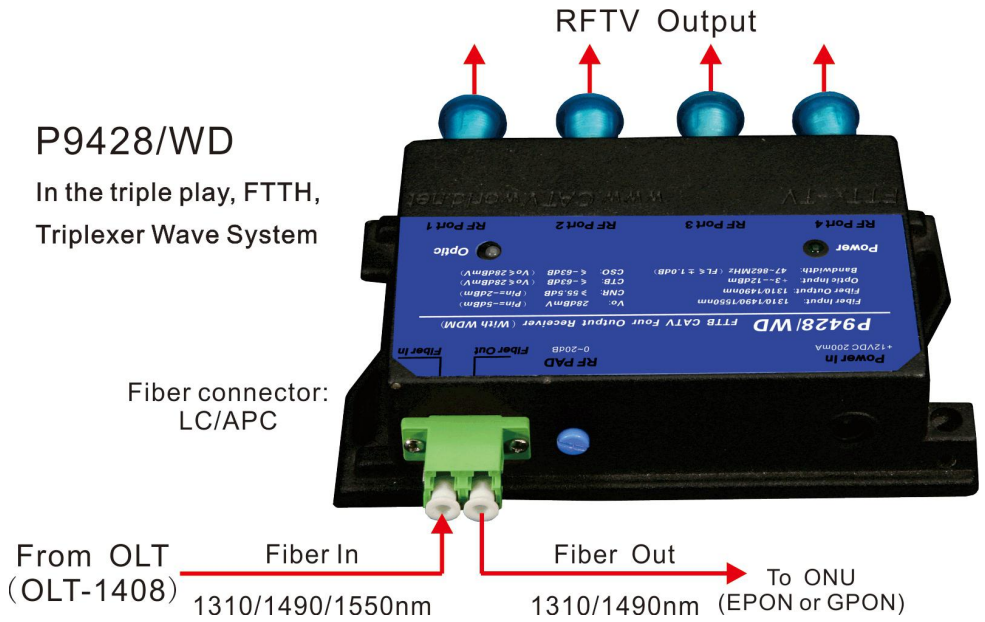
MAIN APPLICATION

▶Digital TV FTTH

▶Integration of three networks

▶FTTH PON

PRINCIPLE

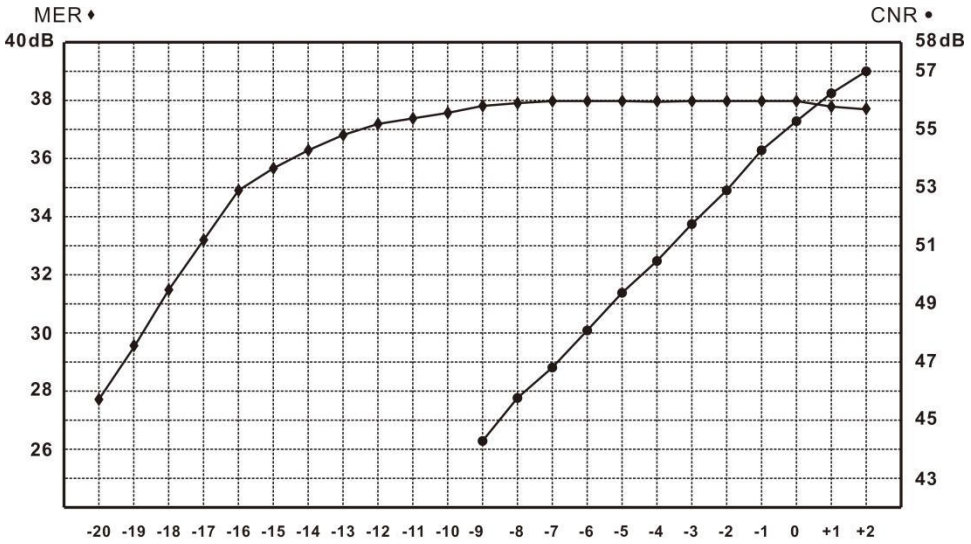


TECHNICAL INDEX

Performance			Index	Supplement
Optic feature	CATV work wavelength	(nm)	1260~1620	P9428
			1540~1563	P9428/WF, P9428/WD
	Pass wavelength	(nm)	1310,1490	P9428/WD
	Channel Isolation	(dB)	≥40	1550nm & 1490nm
	Responsivity	(A/W)	≥0.85	1310nm
			≥0.9	1550nm
	Receiving power	(dB)	+2~-9	Analog TV(CNR>45dB)
			+2~-20	Digital TV(MER>28dB)
	Optical return loss	(dB)	≥55	
	Optical fiber connector		SC/APC	P9428, P9428/WF
			LC/APC	P9428/WD
RF feature	Work bandwidth	(MHz)	47~862	
	Flatness	(dB)	≤±0.75	47 ~ 862MHz
	Output level	(dBμV)	>88	Analog TV (Pin = +1dBm)
			>74	Digital TV (Pin=16dBm)

	Output level adjust	(dB)	0~18	MGC
	Return loss	(dB)	≥14	47 ~ 862MHz
	Output impedance	(Ω)	75	
	Output port number		4	
	RF tie-in		F-Female	
Analog TV Link feature	Test channel	(CH)	59CH(PAL-D)	
	OMI	(%)	3.8	
	CNR1	(dB)	52.9	Pin=-2dBm
	CNR2	(dB)	46.8	Pin=-7dBm
	CTB	(dB)	≤-65	Pin:0~-9dBm
	CSO	(dB)	≤-68	Pin:0~-9dBm
Digital TV Link feature	MER	(dB)	≥36	Pin:+2.0~-13.0dBm
			≥35.7	Pin=-15.0dBm
			≥27.7	Pin=-20.0dBm
	BER	(dB)	<1.0E-9	Pin :+2.0~-20dBm
General feature	Power supply	(V)	DC+12V	±1.0V
	Power Consume	(W)	≤3	+12VDC, 210mA
	Work temp	(℃)	-20 ~ +50	
	Storage temp	(℃)	-40 ~ 85	
	Work relative temp	(%)	5 ~ 95	
	Size(W)×(D)×(H)	(mm)	118×73×29	

CNR, MER DEGRADATTION TABLE



Note:1. CNR test condition: 59CH PAL-D, OMI=3.8%

2. Digital TV test signal：The original signal MER=38.2dB、BER<1.0E-9.

Tx Input Level：87dBμV

ANALOG TV TEST DATA (+2~-9DBM)

Pin(dBm)	+2	-1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
Vo(dBμV)	90.3	88.4	86.4	86.2	86.1	86.3	86.6	86.3	85.2	83.6	81.4	79.6
PAD(dB)	11	11	11	9	7	5	3	-1	0	0	0	0
CNR(dB)	57.0	56.3	55.3	54.3	52.9	51.8	50.5	49.4	48.1	46.8	45.7	44.3
CTB(dB)	54.9	58.6	63.6	64.1	65.1	66.9	64.7	64.1	66.3	69.8	70.1	71.7
CSO(dB)	65.9	67.0	69.7	70.3	71.5	69.3	71.8	69.2	71.5	71.0	73.5	69.6

DIGITAL TV TEST DATA (PIN=+2~-20DBM)

Pin (dBm)	Vo (dBm)	PAD (dB)	MER	BER	
				POST	PRE
+2.0	94	11	37.6	<1.0E-9	<1.0E-9
+1.0	92.5	11	37.8	<1.0E-9	<1.0E-9
+0.0	70.1	11	38.0	<1.0E-9	<1.0E-9
-1.0	88.8	11	38.0	<1.0E-9	<1.0E-9
-2.0	86.2	11	38.0	<1.0E-9	<1.0E-9
-3.0	90.4	7	38.0	<1.0E-9	<1.0E-9
-4.0	88.7	7	38.0	<1.0E-9	<1.0E-9
-5.0	86.7	7	38.0	<1.0E-9	<1.0E-9
-6.0	93.4	0	38.0	<1.0E-9	<1.0E-9
-7.0	91.5	0	38.0	<1.0E-9	<1.0E-9
-8.0	89.7	0	37.9	<1.0E-9	<1.0E-9
-9.0	87.8	0	37.8	<1.0E-9	<1.0E-9

Pin (dBm)	Vo (dBm)	PAD (dB)	MER	BER	
				POST	PRE
-10.0	85.8	0	37.6	<1.0E-9	<1.0E-9
-11.0	83.9	0	37.4	<1.0E-9	<1.0E-9
-12	81.8	0	37.2	<1.0E-9	<1.0E-9
-13	80.1	0	36.8	<1.0E-9	<1.0E-9
-14	78.1	0	36.3	<1.0E-9	<1.0E-9
-15	76.2	0	35.7	<1.0E-9	<1.0E-9
-16	74.4	0	34.9	<1.0E-9	<1.0E-9
-17	72.1	0	33.2	<1.0E-9	<1.0E-9
-18	70.1	0	31.5	<1.0E-9	<1.0E-9
-19	68.1	0	29.6	<1.0E-9	6.0E-8
-20	66.4	0	27.7	<1.0E-9	4.2E-6

PRODUCT SERIES

Model	Input wavelength	CATV operating wavelength	Data pass wavelength	Fiber connector
P9428	1310 or 1550nm	1260~1620nm	-	SC/APC
P9428/WF	1310, 1490 / 1550nm	1540~1563nm	-	SC/APC
P9428/WD	1310, 1490 / 1550nm	1540~1563nm	1310/1490nm	LC/APC

MODEL EXPLANATION

P 9 4 28 / □□ - □□

FTTx Receiver		Work bandwidth		Number of RF output		Output level (Pin=-1dBm)		CWDM		Optical connector	
P	FTTP	9	45~862MHz	4	ports	28	28dBmV(88dBμV)	NC	Without	LA	LC/APC
H	FTTH							WD	Build-in CWDM	LC	LC/UPC
B	FTTB							WF	Build-in Filter	SA	SC/APC
										SP	SC/UPC