

FTTH CATV Optical Receiver With AGC And WDM

SR2020AW



User Manual

Ver. 2.0

FTTH CATV Optical Receiver User Manual

1.0 PRODUCT DESCRIPTION

SR2020AW, the operating bandwidth of 47~1000MHz, is a low power, high performance, cost-effective triple play, FTTH CATV optical receiver, Whether used in analog television or digital television. Products with high sensitivity optical receiver tube and special low noise matching circuit. Receiving at high optical power can be adjusted by PAD level, played limiting output, so SR2020AW within a large dynamic range of the received optical power of +2 dBm ~-21dBm, have excellent characteristics.

Triple play, fiber to the home, using the SR2020AW can save a lot of optical fiber amplifier power resources. For operators, can greatly reduce the cost of building the network.

2.0 PRODUCT FEATURE

1. Extra-low noise(3.8% modulate, -10dBm receive, CNR \geq 45.3dB)
2. Wide dynamic receiving optical power range: within Pin=-16, MER \geq 36.1dB
3. Applicable GPON, EPON, compatible with any FTTx PON technology
4. Can save a large number of optical power resource, greatly reduce the network configuration cost
5. Within 47~1000MHz bandwidth, all with excellent flatness feature (FL \leq \pm 0.75dB)
6. Metal case, offer safeguard for optoelectronic sensitive devices
7. High output level, can be used by many users
8. Low power consume, high performance, high cost performance

3.0 MAIN APPLICATION

1. CATV FTTH
2. Integration of three network
3. FTTH PON

4.0 STATUS INDICATION

1. Red: No optical input or optical power < -16dBm
2. Green: Optical power range > -16dBm

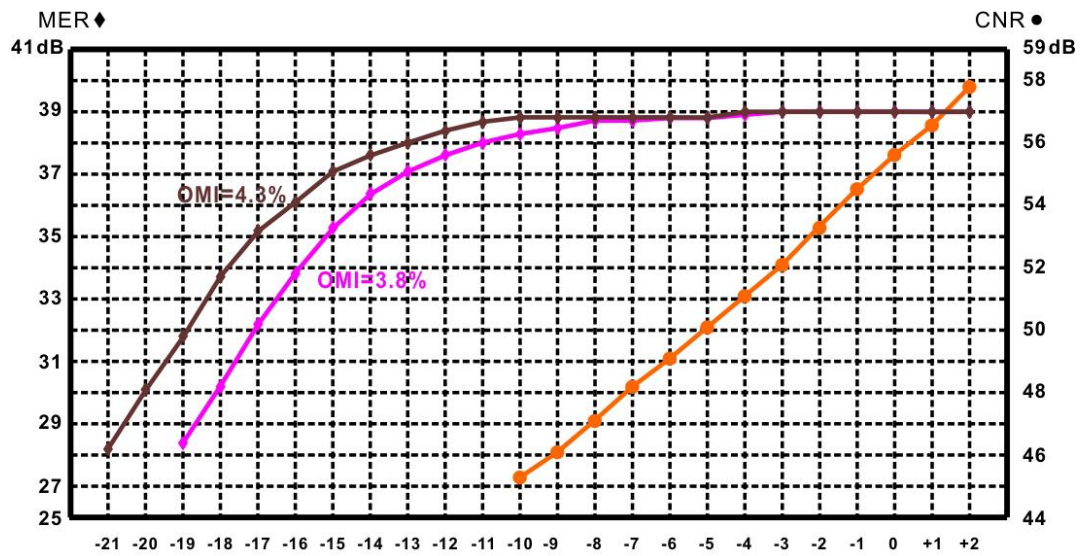
5.0 TECHNICAL INDEX

| Performance | | Index | | Supplement | |
|-------------------------|----------------------|--------|-------------|-----------------------|--|
| Optic Feature | CATV Work wavelength | (nm) | 1540~1563 | | |
| | Pass wavelength | (nm) | 1310, 1490 | | |
| | Channel Isolation | (dB) | ≥40 | 1550nm &1490nm | |
| | Responsibility | (A/W) | ≥0.85 | 1310nm | |
| | | | ≥0.9 | 1550nm | |
| | Receiving power | (dBm) | +2~-18 | Analog TV (CNR>45dB) | |
| | | | +2~-20 | Digital TV (MER>30dB) | |
| | Optical return loss | (dB) | ≥55 | | |
| Optical fiber connector | | SC/APC | | | |
| RF Feature | Work bandwidth | (MHz) | 47~1000 | | |
| | Flatness | (dB) | ≤±0.75 | 47~1000MHz | |
| | Output level | (dBμV) | >78 | Pin=-1~-14dBm AGC | |
| | 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) | 53.3 | Pin=-2dBm | |
| | CNR2 | (dB) | 45.3 | Pin=-10dBm | |
| | CTB | (dB) | ≤-61 | | |
| | CSO | (dB) | ≤-61 | | |

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|----------------------------|--------------------|------------|----------------|---------------|
| Digital TV Link Feature | OMI | (%) | 4.3 | |
| | MER | (dB) | ≥ 36 | Pin=-16dBm |
| | | | ≥ 30 | Pin=-20dBm |
| BER | (dB) | $< 1.0E-9$ | Pin: +2~-21dBm | |
| General Feature | Power supply | (V) | DC+12V | $\pm 1.0V$ |
| | Power Consume | (W) | ≤ 3 | +12VDC, 210mA |
| | Work Temp | (°C) | -20 ~ +55 | |
| | Storage Temp | (°C) | -40 ~ 85 | |
| | Work relative temp | (%) | 5 ~ 95 | |
| | Size | (mm) | 50×88×22 | |

6.0 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.

7.0 NOTE

1. The power adapter for this equipment: Input 110220V, output DC 12V(0.6A).
2. Keep the optical connector clean, the bad link will cause too low RF output level.
3. Should not adjust by themselves, to avoid the device damage.