

ARRIS PWL 4700

PWRLINK™ II DFB TRANSMITTER

The PWRLink II transmitter delivers high performance with RF distortion suppression, enabling system designers to achieve very high carrier-to-noise performance while avoiding receiver overdrive problems. Continuous high performance and reliability of the transmitters are assured by a microprocessor and associated firmware which control and monitor all vital functions.

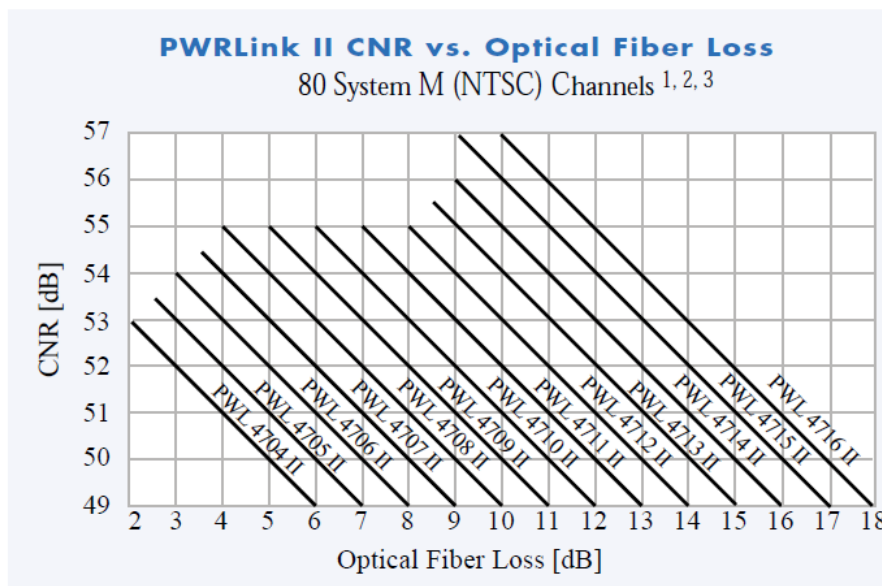
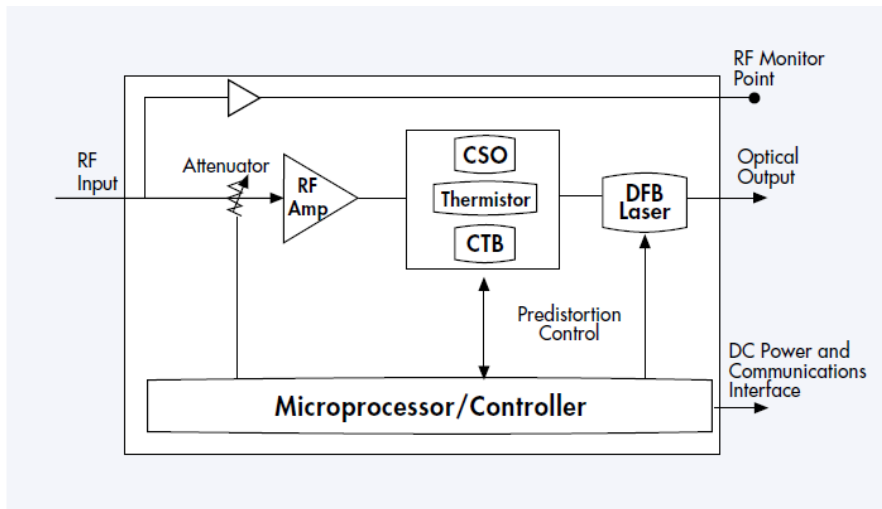
Monitored functions include laser temperature and operating point, optical power and module temperature. The transmitter's flat frequency response and wide operating temperature range maximize overall broadband network performance.

The PWRLink II transmitter modules are very compact with 10 transmitter modules fitting into a single three rack unit high HLP 4200 platform. The transmitter modules fit into the platform via the HMC 4000 module carrier adapter. The transmitter modules are intelligent and easy to configure by means of the user-friendly interface, allowing for set up in minutes. Set up is possible three ways: via the HLP 4200WD platform front panel menu, the RF adjustment on the module front panel, or the NETWatch Element Management System.



- Integrated RF pre-amplifier reduces transmitter drive level requirements.
- Shares common platform with Harmonic's MAXLink™ 1550 nm transmission system.
- Compact size enables 10 DFB transmitters to fit in a 3 RU platform.
- Advanced predistortion circuitry and algorithm for both CTB and CSO provide state-of-the-art distortion cancellation over a wide temperature range.
- Integrated element management with SNMP compatibility.
- Microprocessor control of all key parameters provides consistent and optimum product performance and monitoring.
- Offers a wide range of performance levels, providing cost-effective solutions to meet specific system requirements.
- 750 MHz bandwidth provides flexibility in delivery of signals and services with either 80 channels to 550 MHz with an additional 200 MHz for digital information or full 110 channel loading.
- Unparalleled flat frequency response provides high performance and efficient system integration.
- Simple "plug and play" operation reduces time and cost of installation.

STANDARD CONFIGURATION



1. Specifications for 80 unmodulated System M (NTSC) channels and 200 MHz digital at -10 dBc.
2. Optical link defined as PWRLink II transmitter + 100% fiber link + HRM 3810 receiver.
3. For System B/G, I and D (PAL), decrease CNR by approximately 1 dB (5 MHz video bandwidth).

SPECIFICATIONS

LINK PERFORMANCE		
Carrier-to-noise (CNR):	Shown in figure above	
Carrier-to-CSO:	> 64 dB	
Carrier-to-CTB:	> 68 dB	
These specifications are typical performance, given for 100% fiber optical links.		
Over 90% of PWRLink II transmitters are guaranteed to meet typical performance. Subtract 1 dB from CSO and CTB specifications for worst case performance.		
When link includes optical splitter loss add 0.1 dB to CNR for every 1 dB of splitter loss.		
OPTICAL OUTPUT		
Wavelength:	1290 - 1330 nm	
Flatness:	< 1 dB peak-to-valley	
Model	Optical Power (dBm)	Modulation Index⁴ (%)
PWL 4704 II	5.0 ± 0.5	3.3 ± 0.25
PWL 4705 II	5.5 ± 0.5	3.4 ± 0.25
PWL 4706 II	6.0 ± 0.5	3.5 ± 0.25
PWL 4707 II	7.0 ± 0.5	3.6 ± 0.25
PWL 4708 II	8.0 ± 0.5	3.8 ± 0.25
PWL 4709 II	9.0 ± 0.5	3.8 ± 0.25
PWL 4710 II	9.5 ± 1.0	3.8 ± 0.25
PWL 4711 II	10.5 ± 1.0	3.8 ± 0.25
PWL 4712 II	11.0 ± 1.0	3.8 ± 0.25
PWL 4713 II	11.5 ± 1.0	3.9 ± 0.25
PWL 4714 II	12.0 ± 1.0	4.0 ± 0.25
PWL 4715 II	12.5 ± 1.0	4.0 ± 0.25
PWL 4716 II	13.0 ± 1.0	4.0 ± 0.25
RF INPUT		
Input level range	15 to 22 dBmV	
PWL 4704 II – PWL 4713 II	15 to 22 dBmV	
PWL 4714 II – PWL 4716 II	18 to 22 dBmV	
Operational bandwidth	45 to 750 MHz	
RF attenuator adjustment range	10 dB	
Impedance	75 Ω	
Return Loss	> 16 dB	
Level control	Manual	
USER INTERFACE		
Front panel	Normal = Green, Alarm = Red	
Bi-state status LED	Yellow LED	
Module selection indicator		
RF attenuation adjustment		
Monitor point		
Laser RF drive monitor		
Flatness	± 1.0 dB	
Return loss	> 16 dB	
Connector type	Standard Female F	
ELEMENT MANAGEMENT SYSTEM - NETWATCH™/HEM		
HEM interface	RS-485, RS-232C connectors (in HLP 4200)	
POWER REQUIREMENTS		
Nominal	+24 VDC; supplied by HLP 4200 bus	
Maximum	+28 VDC	
Consumption	22 Watts maximum	
ENVIRONMENTAL		
Operating temperature range ⁵	0° to +50° C / +32° to 122° F	
Storage temperature range	-40° to +70° C / +32° to 158° F	
Automatic three-speed fan adjustment at	40° & 50° C / 104° & 122° F	
Relative humidity	Maximum 85% non-condensing	
Over temperature laser protection	Software and hardware	
PHYSICAL		
Dimensions	1.3" W x 4.4" H x 11.7" D / 3.3 cm W x 11.2 cm H x 29.7 cm D	
Weight	3.6 lbs. / 1.6 kg	
Mounting	HLP 4200 platform; via module carrier HMC 4000	
Optical connector type	SC/APC ⁶	
RF connector type	Standard F, RG-59 cable type (accepts 0.64 - 0.8 mm center conductor diameter)	

Notes:

- Modulation index given for 80 System M (NTSC) channels.
- For operation over entire temperature range, subtract 2 dB from CSO and CTB performance specifications.
- Other connector types available upon request.