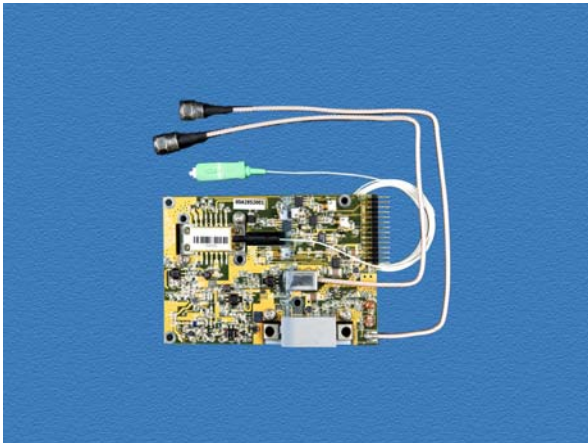




NE3641 1310nm Transmitter Subassembly



Features

- Pre-distortion circuit for second and third order nonlinear compensation
- Available electronic fine tuning
- Integrated RF amplifier
- Compact size suitable for high-density transmitter design.
- Compatible with Agere 3641-type transmitter subassembly

Applications

- Analog and digital narrowcasting
- 1310 nm point-to-point networks
- 1310 nm high power multi-split applications

Product Description

The NE3641 type transmitter subassembly for 1310nm forward-path CATV applications provides high performance in a compact package. This board features a 1310nm laser, an integrated RF amplifier, and available electronic fine tuning for optimized RF pre-distortion performance.

Electronic fine tuning offers significant advantages for OEMs, system integrators, and end users by optimizing transmitter performance in various CATV systems. To incorporate an RF amplifier into the laser subassembly can align the predistorter with the laser and RF amplifier simultaneously. This minimizes the performance degradation caused by customer's RF driver circuitry. The small form factor feature gives OEMs and integrators more flexibility in design for high-density transmitter configurations.

Optical Specifications

Optical Wavelength	1310±20 nm
Optical Output Level (Pout)	6~15 dBm
Threshold Current	≤20 mA, 8 mA typ.
Operating Current	20~100 mA

RF Specifications

Frequency Range	47~1002 MHz
Flatness	±0.5 dB (47~860MHz) and ±0.75 dB (860~1002MHz)
Input RF Level per Channel	25 dBmV/ch typ. for Pout of 6~13 dBm 27 dBmV/ch typ. for Pout of 14~15 dBm
Input Impedance	75 ohm
Input Return Loss	≥16 dB
Test Point	-9±0.75 dB relative to RF input for Pout of 6~13 dBm -11±0.75 dB relative to RF input for Pout of 14~15 dBm

Link Performance

Frequency Plan	79 NTSC analog channels or 110 NTSC analog channels
CNR	≥52.5 dB for NE3641A (Pout of 6~13 dBm)(Note 1, 2, and 3) ≥51.0 dB for NE3641D (Pout of 6~13 dBm)(Note 1, 2, and 4) ≥50.5 dB for NE3641D (Pout of 14 dBm)(Note 2, 4, and 5) ≥50.0 dB for NE3641D (Pout of 15 dBm)(Note 2, 4, and 5)
CSO	≤-66 dBc for NE3641A (Pout of 6~13 dBm)(Note 1, 2, and 3) ≤-65 dBc for NE3641D (Pout of 6~13 dBm)(Note 1, 2, and 4) ≤-66 dBc for NE3641D (Pout of 14 dBm)(Note 2, 4, and 5) ≤-65 dBc for NE3641D (Pout of 15 dBm)(Note 2, 4, and 5)
CTB	≤-68 dBc for NE3641A (Pout of 6~13 dBm)(Note 1, 2, and 3) ≤-67 dBc for NE3641D (Pout of 6~13 dBm)(Note 1, 2, and 4) ≤-68 dBc for NE3641D (Pout of 14 dBm)(Note 2, 4, and 5) ≤-67 dBc for NE3641D (Pout of 15 dBm)(Note 2, 4, and 5)

Note 1: SMF (SMF-28 or equivalent) of 12.5 km with passive loss and optical received power is 0 dBm.

Note 2: CNR and CSO/CTB may degrade up to 0.5 and 2.0 dB, respectively, over full operating temperature range.

Note 3: 79-channel NTSC, modulation index= ~3.7% per channel, receiver noise= 7 pA/√Hz, and optical responsivity ≥0.85 A/W at 1310 nm.

Note 4: 110-channel NTSC, modulation index= ~3.2% per channel, receiver noise= 7 pA/√Hz, and optical responsivity ≥0.85 A/W at 1310 nm.

Note 5: SMF (SMF-28 or equivalent) of 30 km with passive loss and optical received power is 0 dBm.

General Specifications

Operation Temperature Range	0~50 degC
Storage Temperature Range	-20~60 degC
Current consumption	100 mA max. for 12V 450 mA max. for 24V
Dimension in mm	77Dx110Wx21H



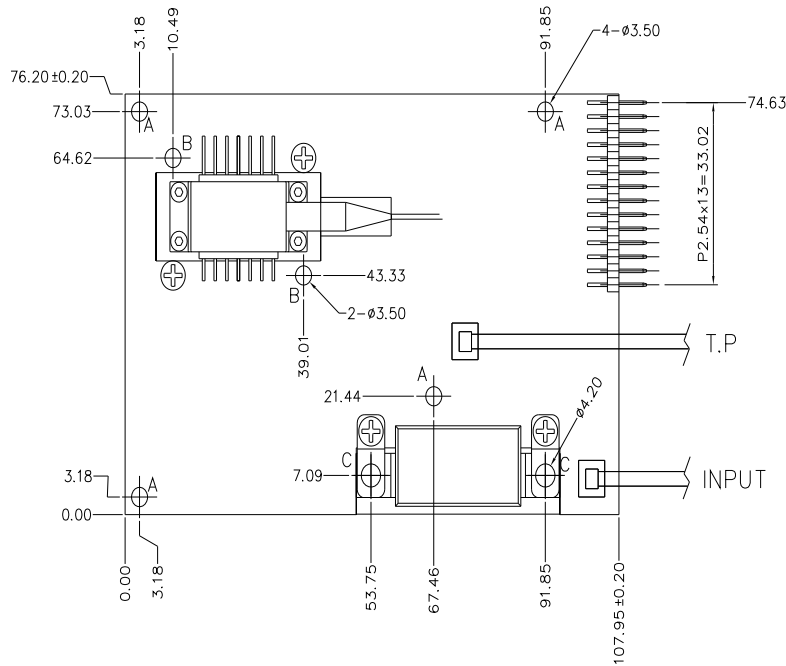
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Ordering Information

NE3641-x-yy-zz

x	Channel Plan	x=A: NTSC 79 channels; x=D: NTSC 110 channels; xx=06: 6dBm; xx=07: 7dBm; xx=08: 8dBm; xx=09: 9dBm;
yy	Optical Output Level	xx=10: 10dBm; xx=11: 11dBm; xx=12: 12dBm; xx=13: 13dBm; xx=14: 14dBm; xx=15: 15dBm;
zz	Optical Connector	zz=SS: SC/APC; zz=FC: FC/APC;

Mechanical Drawing



Note 1: All dimensions are in millimeters.

Note 2: The Tolerance is ± 0.10 unless otherwise specified.

Note 3: The holes denoted by "A" are for fixing PCB to standoff on base. The screws of M3x0.5x6L and standoff length of $S\pm 0.10$ mm are recommended.

Note 4: The holes denoted by "B" are for fixing Laser supporter to base. The screws of M3x0.5x12L are recommended.

Note 5: The holes denoted by "C" are for fixing amplifier supporter to base. The screws of M4x0.7x16L (mm) or 6-32X5/BL (in) are recommended.