

# RDT-1550

**1550nm Direct Modulated Optical Transmitter**  
**(SBS $\geq$ 17dBm, Linewidth $\leq$ 1.0MHz)**



## Overview

RDT-1550 is a 1550nm direct modulated optical transmitter with high performance and AGC function, it adopts high linearity and low chirp DFB laser, built-in pre-distortion compensation and AGC, APC, ATC closed loop control, which improves the system index obviously. It can be used in FTTx ( $\leq$ 10Km) of second-grade service area (sub-headend), also can be used in WDM narrow-band multiplexing and IP/QAM.

At present, international high performance 1550nm direct modulated transmitter has no obvious performance inferior while transmitting an analog and digital multiplexing full channel signal with transmission distance  $\leq$  15Km or transmitting pure digital load with transmission distance  $\leq$  40Km.

RDT-1550: CATV wavelength.

RDT-1550T: ITU standard wavelength.

## Application

1. Provide VOD value-added service in second-grade service area (sub-headend).  
Analog digital mixed transmit  $<$ 15Km (common distance  $\leq$ 10km).  
Pure digital load  $<$ 40Km.
2. WDM narrow band multiplex  $>$ 70Km.

## Features

1. Low chirp, high linearity DFB laser.
2. Dual RF module driver, high efficient laser pre-distortion correcting.
3. Full-automatic OMI control, AGC & MGC.
4. Built back-up power supply, automatically switch.
5. Housing temperature auto-control, ensure the long life of the laser.

## Datasheet

Parameter	Unit	Index
<b>Optical Parameter</b>		
Operating Wavelength	nm	1548~1563nm
		1530~1563nm, ITU wavelength
Laser Linewidth	MHz	≤1.0
Side mode suppression ratio	dB	≥45
		≥20
Equivalent noise intensity	dB/Hz	≤-160
Output Port Number	/	1
Output power	dBm	3/6/10
Return loss	dB	≥55
Optical Connector	/	SC/APC, FC/APC
<b>RF Parameter</b>		
Work Bandwidth	MHz	47~862/1000
Flatness	dB	±0.75
Input Level	dBuV	78~82
Input Impedance	Ω	75
RF Return Loss	dB	>16
RF Port	/	F-Female
<b>Link Parameter</b>		
Test Channel Number	/	PAL-D/60CH
CNR	dB	≥50
CTB	dB	≤-63
CSO	dB	≤-57
SBS	dBm	≥17
<b>General Parameter</b>		
Power Supply	V	90~265VAC or 48VDC
Power Consumption	W	≤50
Operating Temp.	°C	-5~65
Storage Temp.	°C	-40~85
Operating relative humidity	%	5~95
Communication interface	/	RS232
SNMP network management interface	/	RJ45
Dimension	mm	483*254*44

## Ordering Information

Model	Transmission Distance	Optical Output Power (dBm)
RDT-1503-10	10km	Singal optical output power≥3dBm
RDT-1506-10		Singal optical output power≥6dBm
RDT-1510-10		Singal optical output power≥10dBm
RDT-1503-15	15km	Singal optical output power≥3dBm
RDT-1506-15		Singal optical output power≥6dBm
RDT-1510-15		Singal optical output power≥10dBm

Model	Work Frequency		SNMP		Power Supply		Number of Power Supply		Optical Connector		ITU Grid Channel No.	
RDT-1550(T)	86	47~862 MHz	0	No	11	110V AC	S	Single Power Supply	SC	SC/APC	23	1558.98nm
	10	47~1000 MHz	1	Build in	22	220V AC	D	Dual Power Supply	LC	LC/APC	30	1553.33nm
	18	47~1080 MHz			48	-48V DC			FC	FC/APC	37	1547.72nm
For Example	RDT-1513AT-15-86-1-11-D-SC-23											

## Appendix

C-Band Wavelength list:

ITU-TG.692 Standard Wavelength

Channel Number	Frequency (THz)	Wavelength (nm)
61	196.1	1528.77
60	196.0	1529.55
59	195.9	1530.33
58	195.8	1531.12
57	195.7	1531.90
56	195.6	1532.68
55	195.5	1533.47
54	195.4	1534.25
53	195.3	1535.04
52	195.2	1535.82
51	195.1	1536.61
50	195.0	1537.40
49	194.9	1538.19
48	194.8	1538.98
47	194.7	1539.77
46	194.6	1540.56
45	194.5	1541.35
44	194.4	1542.14

43	194.3	1542.94
42	194.2	1543.73
41	194.1	1544.53
40	194.0	1546.12
39	193.9	1546.92
38	193.8	1547.72
37	193.7	1545.32
36	193.6	1548.51
35	193.5	1549.32
34	193.4	1550.12
33	193.3	1550.92
32	193.2	1551.72
31	193.1	1552.52
30	193.0	1553.33
29	192.9	1554.13
28	192.8	1554.94
27	192.7	1555.75
26	192.6	1556.55
25	192.5	1557.36
24	192.4	1558.17
23	192.3	1558.98
22	192.2	1559.79
21	192.1	1560.61
20	192.0	1561.42
19	191.9	1562.23
18	191.8	1563.05
17	191.7	1563.86