NYDMT Series UWB Directly Modulated Transmitter

Product Features

※ Ultra-wideband (better than 18GHz)
※ Wavelength: DWDM(ITU)
※ Excellent side mode suppression ratio
※ Highly integrated, module packaging
※ High-Dynamic-Range
※ High output power
※ Operating case temperature: (-40℃～70℃)

Applications

※ Antenna＆Radar
※ Electronic countermeasure system
※ Analog RF links transmission
※ Broadband Wireless Communication
※ Mobile communication base station

Introduce Of NYDMT

NYDMT Transmitter are mainly composed of high-speed directly modulated DFB laser, automatic optical power control circuit, automatic temperature control circuit, voltage-stabilizing conversion circuit , monitoring and indicating circuit.

The wavelength of NYDMT is optional (DWDM ITU standard). Its modulation bandwidth is better than 18GHz, output power can reach 10mW. A single positive power supply, which can make NYCMT works stably in the voltage range of+7V ~+36V. NYDMT takes many advantages, such as low relative intensity noise, good stability of output wavelength, high output power,etc.

Besides, NYDMT Transmitter has the indicating function, which show the power supply and optical power output is normal or not.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Storage temperature	T_{STG}	-55	+25	+85	℃
Operation temperature	T_C	-40	+25	+70	℃
RF input power[1]	P_{in}	-	+10	+20	dBm
Voltage	V_{in}	+7	+12	+36	V

(1) Continuous wave (CW) working mode.

Optical and Electrical Specification (TC = 22±3℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Wavelength	λ	-	DWDM(ITU)			nm
Frequency（3dB）	f_{3dB}	X band	0.1	-	12	GHz
		Ku band	1	-	18	
Light output power	P	-	5	10	-	mW
Relative Intensity Noise	RIN	-	-	-	-155	dBc/Hz
Return loss（VSWR）	VSWR	X band	-	-	2	-
		Ku band	-	-	2.2	
Input 1 dB Compression	-	-	+13	+15	-	dBm

Power Supply (T_C = 22±3℃)

Parameter	Min.	Typ.	Max.	Unit
Voltage	+7	+12	+36	V
Current (1)	0.07	0.1	1	A

(1) Test condition：Vin=+12V。

Typical Response Curve

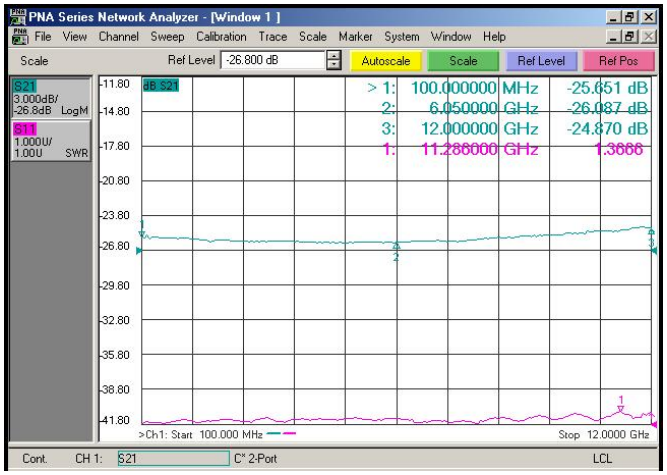


Figure 1 NYDMT-X Transmitter Typical Response Curve

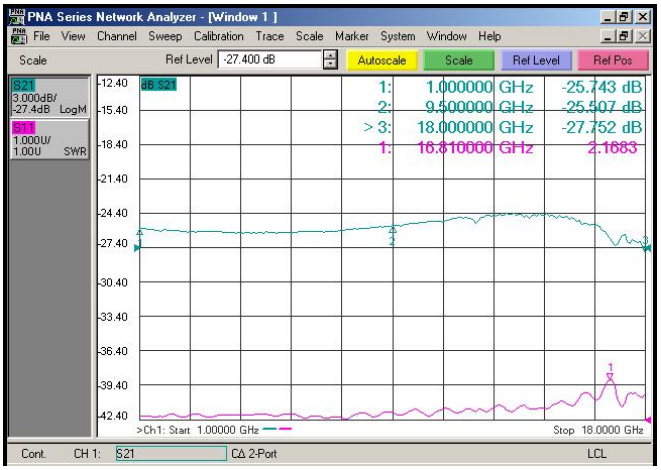


Figure 2 NYDMT-Ku Transmitter Typical Response Curve

Typical Spectrogram

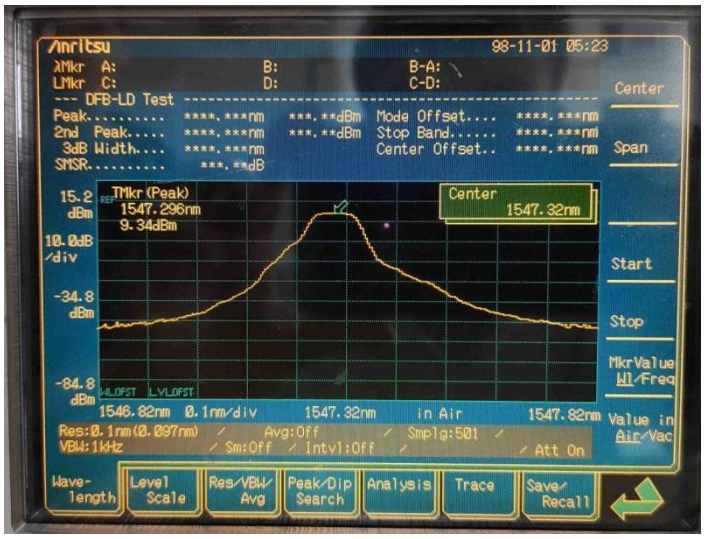
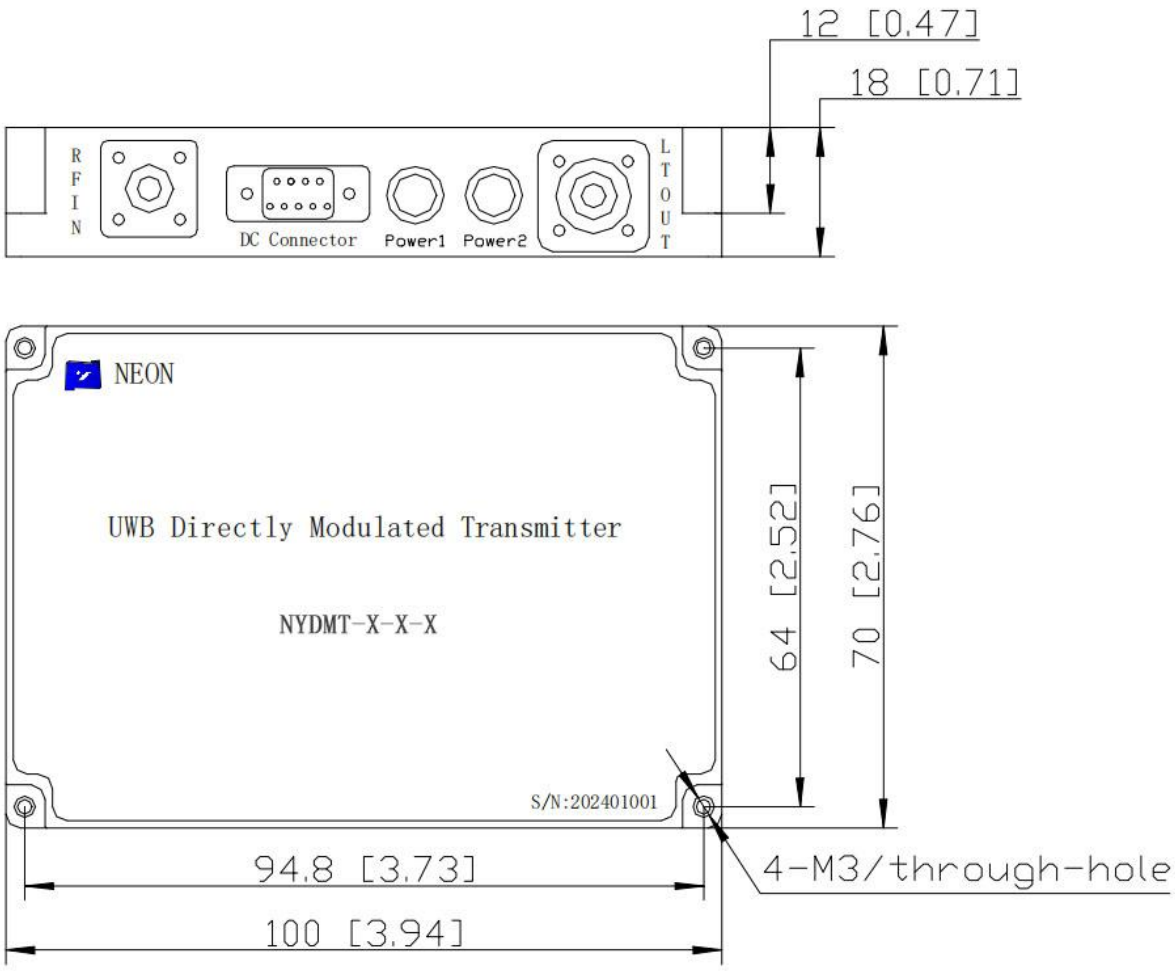


Figure 3 NYDMT Transmitter Typical Spectrogram

Dimension Unit: mm[inch]



RF Connector: SMA

Power Connector: J30J-9-ZKP

Figure 4 NYDMT Transmitter Dimension

Pin Of Power Supply

Parameter	Description								
Pin	1	2	3	4	5	6	7	8	9
Voltage	+12V			NC		GND			NC

Order Information

NYDMT-□-□-□ — Sheet 4
Sheet 3
Sheet 2
Sheet 1

Sheet 1:

Symbol	Description
DM	DWDM (Dense Wavelength Division Multiplexing) 7 PIN butterfly

Sheet2:

Symbol	Description
X	0.1 ~ 12 GHz
Ku	1 ~ 18 GHz

Sheet3:

Channel	Frequency	Center Wavelength		Channel	Frequency (THz)	Center Wavelength
C01	Any desired custom wavelength			C37	193.7	1547.72
C02	Non-ITU, 1547 nm – 1560 nm			C38	193.8	1546.92
C03	Non-ITU, 1557 nm – 1560 nm			C39	193.9	1546.12
C04	Non-ITU, 1530 nm – 1560 nm			C40	194	1545.32
C15	191.5	1565.50		C41	194.1	1544.53
C16	191.6	1564.68		C42	194.2	1543.73
C17	191.7	1563.86		C43	194.3	1542.94
C18	191.8	1563.05		C44	194.4	1542.14
C19	191.9	1562.23		C45	194.5	1541.35
C20	192	1561.41		C46	194.6	1540.56
C21	192.1	1560.61		C47	194.7	1539.77
C22	192.2	1559.79		C48	194.8	1538.98
C23	192.3	1558.98		C49	194.9	1538.19
C24	192.4	1558.17		C50	195	1537.4
C25	192.5	1557.36		C51	195.1	1536.61
C26	192.6	1556.55		C52	195.2	1535.82
C27	192.7	1555.75		C53	195.3	1535.04
C28	192.8	1554.94		C54	195.4	1534.25
C29	192.9	1554.13		C55	195.5	1533.47
C30	193	1553.33		C56	195.6	1532.68
C31	193.1	1552.52		C57	195.7	1531.9
C32	193.2	1551.72		C58	195.8	1531.12
C33	193.3	1550.92		C59	195.9	1530.33
C34	193.4	1550.12		C60	196	1529.55
C35	193.5	1549.32		C61	196.1	1528.77
C36	193.6	1548.51		C62	196.2	1527.99

Sheet 4:

Symbol	Connector Type	Description
N	Customized	Customized
A	FC / APC	Standard 9/125μm SM fiber
P	FC / PC	Standard 9/125μm SM fiber