

LTS-2000 series  
Full C-Band or L-Band  
Tunable Laser Source  
  
Technical Specification

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## 1.0 PRODUCT DESCRIPTION

The LTS-2000 series full C-Band or L-Band quick adjustable laser optical source, is a 2U small model of high precision and multi-function, can be set up 1~4 port independent C or L band adjustable optical source. Various flexible configurations optional (see more in product series), and making daily test and measurement applications greatly convenient.

LTS-2000 big color displays, shows the inside data and the current operating mode. The rear panel provides RS232 interface and 10/100 Ethernet interface, used in SNMP, long-distance control and management.

LTS-2000 has three operation modes:

1. ITU Grid 50GHz spacing fixed output wavelength:

Internal memory ITU Grid 50GHz spacing all channel data. Customers input standard ITU Grid code, frequency or wavelength, in less than 20ms duration, The LTS-2000 can quickly accurately lock and output the wavelength you choose.

2. C-Band or L-Band any fixed wavelength output. Any fixed-wavelength output.

3. Single or double wavelength / roundtrip frequency scanning:

Users set the wavelength range, step, rate, single or double scanning to wavelength / roundtrip frequency.

The output power of LTS-2000-V can be setup by accuracy of 0.01dB.

LTS-2000 common configuration:

LTS-2501: 1way C-Band output, adjustable laser light.

LTS-2504: 4ways C-Band output, adjustable laser light.

LTS-2601: 1way L-Band output, adjustable laser light.

LTS-2711: 1way C-Band and 1way L-Band, 2ways output, adjustable laser light.

LTS-2711-CW1: 1way C& L-Band output, adjustable laser light.

LTS-2712-CW1: 1way C-Band and 1way C&L-Band, 2 ways output, adjustable laser light.

LTS-2722-CW1: 1way C-Band, 1way L-Band and 1way C&L-Band 3ways output, adjustable laser light.

## **2.0 PRODUCT FEATURE**

- Full C-Band or L-Band tunability
- >35nm Tuning range ( C or L-Band)
- ITU Grid 50GHz Spacing Locking ( C/L-Band>89CH )
- Fast tuning speed ( 20ms )
- High Wavelengths ( or Frequency ) accuracy
- High Wavelengths ( or Frequency ) Stability
- High Power/wavelengths ripple
- High Output power ( >13dBm )
- Settable Output Power
- Narrow Linewidth
- Superior SMSR
- High OSNR ( >50dB )
- Polarization maintaining optical fiber output optional
- Colorful large screen, displays all kinds of parameter and control mode
- RS232 Serial Communication interface
- RJ45 Ethernet interface for SNMP remote control
- Small model can be configured with 1~4 independent light source, Applicable to various test and measurement
- Excellent P/P ratio

## **3.0 MAIN APPLICATION**

- WDM Component testing & QA
- Fiber sensors
- PMD & PDL measurement
- Optical Coherence Tomography ( OCT )
- AWQ & PLC Component testing
- WDM system testing and measurement

## 4.0 Technical index

Performance		Index			Supplement
		Min.	Typ.	Max.	
Tuning Range	(nm)	35			
C-Band Frequency tuning Range	(nm)	1528.77		1563.86	LTS-2500
C-Band Wavelength tuning Range	(THz)	191.7		196.1	LTS-2500
L-Band Frequency tuning Range	(nm)	1568.7		1607.5	LTS-2600
L-Band Wavelength tuning Range	(THz)	186.5		191.1	LTS-2600
Number of ITU grid locking		89			C or L-Band 50GHz spacing
Channels Spacing	(nm)		0.4		50GHz spacing
Locked wavelength accuracy	(nm)	-0.014	±0.01	+0.014	±1.8 GHz
Wavelength stability	(nm)	-0.012	±0.008	+0.012	±1.5 GHz
Tuning Speed	(mS)		10	20	
Power / wavelength ripple	(dB)	-0.25	±0.15	+0.25	Over tuning range
Output Optical Power	(dBm)	13			
Output optical setting range	(dB)	+8		+13	LTS-2000-V
Resolution for power setting	(dB)		0.01		LTS-2000-V
Line width	(MHz)		1	5	
Side Mode Suppression ratio	(dB)	45	50		
Relative Intensity Noise (RIN)	(dB)		-150	-140	
OSNR	(dB)	50			0.1nm Bandwidth
Polarization Extinction Ratio (PER)	(dB)	20			PMF
Return loss	(dB)	50			
Mode		CW			Continuous Wave
Optical connector		SC/APC			Optional FC/APC, LC/APC
10/100M Ethernet interface		RJ45			
Net working protocol		SNMP			
Communication interface		RS232			
Power supply	(VAC)	90		265	50/60Hz
Work temp.	(°C)	-5		65	
Storage temp.	(°C)	-40		85	

Relative humidity	(%)	5		95	
Size (W)x(D)x(H)	(")	11×14×3.5			

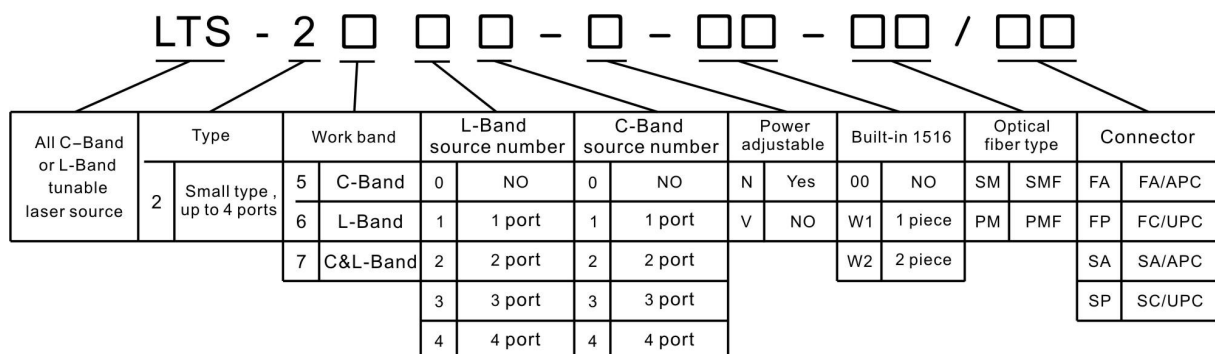
## 5.0 PRODUCT SERIES

NO.	Model	Work band	L-Band Link source	C-Band Link source	C&L-Band Link source	Power adjustable	C/L WDM	Number of output port
1	LTS-2501-N-00	C-Band	0	1	0	NO	Without	1
2	LTS-2502-N-00			2				2
3	LTS-2503-N-00			3				3
4	LTS-2504-N-00			4				4
5	LTS-2610-N-00	L-Band	1	0	0	NO	Without	1
6	LTS-2620-N-00		2					2
7	LTS-2630-N-00		3					3
8	LTS-2640-N-00		4					4
9	LTS-2711-N-00	C-Band and L-Band	1	1	0	NO	Without	2
10	LTS-2712-N-00		1	2				3
11	LTS-2713-N-00		1	3				4
12	LTS-2721-N-00		2	1				3
13	LTS-2722-N-00		2	2				4
14	LTS-2731-N-00		3	1				4
15	LTS-2711-N-CW1	C-Band, L-Band and C&L-Band	0	0	1	NO	With	1
16	LTS-2712-N-CW1		0	1	1			2
17	LTS-2721-N-CW1		1	0	1			2
18	LTS-2722-N-CW1		1	1	1			3
19	LTS-2722-N-CW2		0	0	2			2
20	LTS-2501-V-00	C-Band	0	1	0	YES	Without	1
21	LTS-2502-V-00			2				2
22	LTS-2503-V-00			3				3
23	LTS-2504-V-00			4				4

24	LTS-2610-V-00	L-Band	1	0	0	YES	Without	1
25	LTS-2620-V-00		2					2
26	LTS-2630-V-00		3					3
27	LTS-2640-V-00		4					4
28	LTS-2711-V-00	C-Band and L-Band	1	1	0	YES	Without	2
29	LTS-2712-V-00		1	2				3
30	LTS-2713-V-00		1	3				4
31	LTS-2721-V-00		2	1				3
32	LTS-2722-V-00		2	2				4
33	LTS-2731-V-00		3	1				4
34	LTS-2711-V-CW1	C-Band, L-Band and C&L-Band	0	0	1	YES	With	1
35	LTS-2712-V-CW1		0	1	1			2
36	LTS-2721-V-CW1		1	0	1			2
37	LTS-2722-V-CW1		1	1	1			3
38	LTS-2722-V-CW2		0	0	2			2

Remark: The gray one is a common type.

## 6.0 Model explanation



## 7.0 Appendix1. C / L:On ITU Grid, H / Q : 50 GHz Offset

Channel	f (GHz)	$\lambda$ (nm)	Channel	f (GHz)	$\lambda$ (nm)	Channel	f (GHz)	$\lambda$ (nm)	Channel	f (GHz)	$\lambda$ (nm)
L48	184800	1622.25	Q79	187950	1595.06	H10	191050	1569.18	H41	194150	1544.13
Q48	184850	1621.81	L80	188000	1594.64	C11	191100	1568.77	C42	194200	1543.73
L49	184900	1621.38	Q80	188050	1594.22	H11	191150	1568.36	H42	194250	1543.33
Q49	184950	1620.94	L81	188100	1593.79	C12	191200	1567.95	C43	194300	1542.94
L50	185000	1620.50	Q81	188150	1593.37	H12	191250	1567.54	H43	194350	1542.54
Q50	185050	1620.06	L82	188200	1592.95	C13	191300	1567.13	H44	194450	1541.75
L51	185100	1619.62	Q82	188250	1592.52	H13	191350	1566.72	C45	194500	1541.35
Q51	185150	1619.19	L83	188300	1592.10	C14	191400	1566.31	H45	194550	1540.95
L52	185200	1618.75	Q83	188350	1591.68	H14	191450	1565.90	C46	194600	1540.56
Q52	185250	1618.31	L84	188400	1591.26	C15	191500	1565.50	H46	194650	1540.16
L53	185300	1617.88	Q84	188450	1590.83	H15	191550	1565.09	C47	194700	1539.77
Q53	185350	1617.44	L85	188500	1590.41	C16	191600	1564.68	H47	194750	1539.37
L54	185400	1617.00	Q85	188550	1589.99	H16	191650	1564.27	C48	194800	1538.98
Q54	185450	1616.57	L86	188600	1589.57	C17	191700	1563.86	H48	194850	1538.58
L55	185500	1616.13	Q86	188650	1589.15	H17	191750	1563.45	C49	194900	1538.19
Q55	185550	1615.70	L87	188700	1588.73	C18	191800	1563.05	H49	194950	1537.79
L56	185600	1615.26	Q87	188750	1588.30	H18	191850	1562.64	C50	195000	1537.40
Q56	185650	1614.83	L88	188800	1587.88	C19	191900	1562.23	H50	1950.5	1537.00
L57	185700	1614.39	Q88	188850	1587.46	H19	191950	1561.83	C51	195100	1536.61
Q57	185750	1613.96	L89	188900	1587.04	C20	192000	1561.42	H51	195150	1536.22
L58	185800	1613.52	Q89	188950	1586.62	H20	192050	1561.01	C52	195200	1535.82
Q58	185850	1613.09	L90	189000	1586.20	C21	192100	1560.61	H52	195250	1535.43
L59	185900	1612.65	Q90	189050	1585.78	H21	192150	1560.20	C53	195300	1535.04
Q59	185950	1612.22	L91	189100	1585.36	C22	192200	1559.79	H53	195350	1534.64
L60	186000	1611.79	Q91	189150	1584.95	H22	192250	1559.39	C54	195400	1534.25
Q60	186050	1611.35	L92	189200	1584.53	C23	192300	1558.98	H54	195450	1533.86
L61	186100	1610.92	Q92	189250	1584.11	H23	192350	1558.58	C55	195500	1533.47
Q61	186150	1610.49	L93	189300	1583.69	C24	192400	1558.17	H55	195550	1533.07
L62	186200	1610.06	Q93	189350	1583.27	H24	192450	1557.77	C56	195600	1532.68
Q62	186250	1609.62	L94	189400	1582.85	C25	192500	1557.36	H56	195650	1532.29
L63	186300	1609.19	Q94	189450	1582.44	H25	192550	1556.96	C57	195700	1531.90
Q63	186350	1608.76	L95	189500	1582.02	C26	192600	1556.55	H57	195750	1531.51
L64	186400	1608.33	Q95	189550	1581.60	H26	192650	1556.15	C58	195800	1531.12
Q64	186450	1607.90	L96	189600	1581.18	C27	192700	1555.75	H58	195850	1530.72
L65	186500	1607.47	Q96	189650	1580.77	H27	192750	1555.34	C59	195900	1530.33
Q65	186550	1607.04	L97	189700	1580.35	C28	192800	1554.94	H59	195950	1529.94
L66	186600	1606.60	Q97	189750	1579.93	H28	192850	1554.54	C60	196000	1529.55
Q66	186650	1606.17	L98	189800	1579.52	C29	192900	1554.13	H60	196050	1529.16
L67	186700	1605.74	Q98	189850	1579.10	H29	192950	1553.73	C61	196100	1528.77



Q67	186750	1605.31	L99	189900	1578.69	C30	193000	1553.33	H61	196150	1528.38
L68	186800	1604.88	Q99	189950	1578.27	H30	193050	1552.93	C62	196200	1527.99
Q68	186850	1604.46	L00	190000	1577.86	C31	193100	1552.52	H62	196250	1527.60
L69	186900	1604.03	Q00	190050	1577.44	H31	193150	1552.12	C63	196300	1527.22
Q69	186950	1603.60	C01	190100	1577.03	C32	193200	1551.72	H63	196350	1526.83
L70	187000	1603.17	H01	190150	1576.61	H32	193250	1551.32	C64	196400	1526.44
Q70	187050	1602.74	C02	190200	1576.20	C33	193300	1550.92	H64	196450	1526.05
L71	187100	1602.31	H02	190250	1575.78	H33	193350	1550.52	C65	196500	1525.66
Q71	187150	1601.88	C03	190300	1575.37	C34	193400	1550.12	H65	196550	1525.27
L72	187200	1601.46	H03	190350	1574.95	H34	193450	1549.72	C66	196600	1524.89
Q72	187250	1601.03	C04	190400	1574.54	C35	193500	1549.32	H66	196650	1524.50
L73	187300	1600.60	H04	190450	1574.13	H35	193550	1548.91	C67	196700	1524.11
Q73	187350	1600.17	C05	190500	1573.71	C36	193600	1548.51	H67	196750	1523.72
L74	187400	1599.75	H05	190550	1573.30	H36	193650	1548.11	C68	196800	1523.34
Q74	187450	1599.32	C06	190600	1572.89	C37	193700	1547.72	H68	196850	1522.95
L75	187500	1598.89	H06	190650	1572.48	H37	193750	1547.32	C69	196900	1522.56
Q75	187550	1598.47	C07	190700	1572.06	C38	193800	1546.92	H69	196950	1522.18
L76	187600	1598.04	H07	190750	1571.65	H38	193850	1546.52	C70	197000	1521.79
Q76	187650	1597.62	C08	190800	1571.24	C39	193900	1546.12	H70	197050	1521.40
L77	187700	1597.19	H08	190850	1570.83	H39	193950	1545.72	C71	197100	1521.02
Q77	187750	1596.76	C09	190900	1570.42	C40	194000	1545.32	H71	197150	1521.63
L78	187800	1596.34	H09	190950	1570.01	H40	194050	1544.92	C72	197200	1520.25
Q78	187850	1595.91	C10	191000	1569.59	C41	194100	1544.53	H72	197250	1519.86
L79	187900	1595.49									