

Lightem LCT5EM NGB (Next Generation Broadcasting) Full C-band tunable (tuning range>35nm) 1550nm External Modulation Optical Transmitter



LCT5EM all C band tunable CATV external modulation optical transmitter, is an industry-leading and pioneer product. The tunable range of wavelength: 1528.77~1563.86nm, the adjustable wavelength: >35nm. With the traditional ITU standard wavelength $\pm 0.8\text{nm}(\pm 100\text{GHz})$ can tunable, is a completely new concept and application ranges.

Up to 89 ITU standard wavelength channels (within C band 0.4nm ITU Grid) can be selected for operations. User can configure, switch and route etc wavelength management function quickly, accurately. High wavelength accuracy, high wavelength stability, fast tuning rate, perfectly adapt the NGB (Next Generation Broadcasting) DWDM system. It's high wavelength flexibility and replaceability will become the development direction of next generation broadcast television network (NGB) external modulation optical transmitter.

FEATURES

- Full C-Band tunable, tunable range >35nm
- 0.4nm interval, 89 ITU channels, database storage
- ITU cord, Frequency, Wavelength three tunable ways, flexible and convenient
- Flexible tunable speed (<20mS)
- High wavelength(frequency) lock precision($\pm 0.02\text{nm}$)
- High wavelength(frequency) stability ($\pm 0.012\text{nm}$)
- Excellent side mode suppression, high extinction ratio
- Low noise, narrow linewidth (Typ.=0.3MHz)
- Working frequency bandwidth up to 1050MHz
- Excellent system CNR,CTB,CSO index
- SBS threshold 13 ~ 19dBm continuously adjustable
- The safety and reliability of the telecommunication level , network management
- 10/100M Ethernet interface, support SNMP, and WEB remote control and management
- 1+1 power backup, support hot plug-ing
- Excellent cost performance
- Main application

MAIN APPLICATION

- Next Generation Broadcasting (NGB)
- FTTH, FTTx PON, RFOG, Triple-play
- Narrow plug data service as VOD, IP/QAM, etc
- Replacing traditional fixed wavelength 1550nm external modulation optical transmitter
- Providing highly wavelength flexible and replace ability
- As an alternate machine of ITU fixed-wavelength optical transmitter, to reduce the amount of inventory reserves
- Fully use of existing fiber resources, achieving network upgrades and expansion
- The CATV network with super capacity backbone and metropolitan area networks
- Dynamic wavelength configuration, wavelength conversion, wavelength routing
- Optical path protection, DWDM line back up
- Dynamic optical add-drop multiplexing (OADM)
- DWDM system test

APPLICATION CASES

- 255Km PAL-D/56CH & 20CH Digital QAM Hybrid Transmission Application Cases
- 587Km pure digital TV 1550nm overlength optical trunk application Cases
- FTTH application diagram

SPECIFICATIONS

Optic Features	Min	Typ	Max	Supplement
Tuning Range	35nm		1563.86	C-Band
Frequency tuning Range	1528.77nm		196.1	
Wavelength tuning Range	191.7 THz			
Number of ITU grid locking	89			50GHz spacing
Channels Spacing		0.4nm		50GHz spacing
Locked wavelength Accuracy	-0.02nm		+0.02nm	± 2.5 GHz
Wavelength stability	-0.012nm		+0.012nm	± 1.5 GHz
Tuning Speed			20 ms	
Number of Output port		2		
Output power of each port	5.5 dBm			LCT5EM26
	6.5 dBm			LCT5EM27
	7.5 dBm			LCT5EM28
	8.5 dBm			LCT5EM29
Power ripple	-0.25 dB	±0.15 dB	+0.25 dB	Over tuning range
Line width		0.35 MHz	1 MHz	FWHM ($\Delta\lambda$), (-3dB full width)
Side Mode Suppression ratio	45 dB	50 dB		SMSR
Relative Intensity Noise (RIN)			-160 dB	RIN (20-1000MHz)
Return loss	50 dB			
Optical connector		SC/APC		Optional FC/APC, LC/APC
RF Features				
Work bandwidth	47MHz		862 MHz	
Input level	18 dBmV		28 dBmV	AGC
Flatness	-0.75 dB		+0.75 dB	
Return loss	16 dB			
Input impedance		75 Ω		
RF connector		F-Female		
Link Features				
SBS restrain	13 dB		19 dB	Adjustable
Transmit channel	PAL-D/60CH		PAL-D/99CH	
CNR1	≥54.0 dB		≥52.5 dB	Back to back
CNR2	≥52.5 dB		≥50.5 dB	65Km optical fiber, 0dBm receiver
CTB	≤-65 dB			
CSO	≤-65 dB			
General Features				
10 / 100M Ethernet interface		RJ45		
Networking protocol		SNMP		
Communication interface		RS232		
Power supply	90 VAC		265 VAC	50 / 60Hz
	-72 VDC	-48 VDC	-36 VDC	
Power Consume			50W	Single power works
Operating temp.	-5		65 °C	Automatic Machine temp. control
Storage temp.	-40		85 °C	
Operating relative humidity	5		95%	
Size (W)x(D)x(H)		19×15.2×1.75 inches		

Model	Number of output port	Output power of each port	Work wavelength	SBS Restrain	SNMP	System index(59 routes PAL-D)			
						CNR1	CNR2	CTB	CSO
LCT5EM26	2	5.5dBm				54	52.5	-65	-65
LCT5EM27	2	6.5dBm	1528.77~1563.86	13~19 dBm	with	54	52.5	-65	-65
LCT5EM28	2	7.5dBm	Full C-Band Tunable	Adjustable		54	52.5	-65	-65
LCT5EM29	2	8.5dBm				54	52.5	-65	-65

ORDERING INFORMATION

P/N	
LCT5EM a-b-cc-dd-X	a- output power / b- Optical port location / cc- connector type / dd- Power supply
a	6- 5.5dBm
	7- 6.5dBm
	8- 7.5dBm
	9- 8.5dBm
b	F- front panel
	B- back panel
c	FA- FC/APC
	SA- SC/APC
	LA- LC/APC
dd:	22- 220V AC
	11- 110V AC
	48- -48V DC
	42- -48V DC & 220V AC
X	M- with SNMP Network Management
	N- without SNMP Network Management