

HES-55S series
4way multi-satellite external modulation
optical transmitter
(950~5500MHz)

Technical index

Catalogue

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1.0 PRODUCT DESCRIPTION

Huatai HES-55S series 1550nm wide band micro-wave external modulation optical transmitter, adopts external modulation technology, without laser chirp, extremely low dispersion distortion, large extinction ratio. It fits for high ratio, high broadband, long distance telecommunication network application.

HES-55S working bandwidth 950~5450MHz. It can transmit multi(stacker) 4-Band SAT-IF signal in one fiber to realize four polarized 4-Band SAT-IF signal in one satellite, or 4-Band SAT-IF signal in different satellites to convert all of them into one fiber. Through FTTH, users use ordinary satellite receiver and STB to receive satellite video carrier the integrate TV programs. It can supply high quality of satellite TV service up to 3000 SDTV or 600 HDTV channel.

HES-55S can compatible with any FTTx PON technology to realize satellite TV, cable TV, internet integration of three networks. It can choose ITU-T standard wavelength to fit for DWDM system application.

HES-55S adopts low noise, narrow band, continuous wave laser as optical source, it adopts high bandwidth LiNbo3 external modulator as signal to eliminate 1550 nmlaser to control the chirp. Excellent laser APC, ATC control and external modulation bias control, perfect SNMP, RS232 interface, 1+1 power supply backup. High performance, high reliability and excellent performance price ratio. It is the best choice for subscribers.

2.0 PRODUCTS FEATURE

- External technology without laser chirp , extremely low dispersion distortion, large extinction ratio.
- 950~5500MHz RF working bandwidth.
- It adopts frequency-division multiplexing (FDM), and can simultaneously transmit 4-way SAT-IF composite signal $4 \times (950 \sim 2150\text{MHz})$ through one fiber.
- Up to 3000 SDTV or 600 HDTV channels to be used at subscribers end.
- ITU-T standard wavelength adjustable , can be used in DWDM system application.
- Can use EDFA、YEDFA, can compatible with any FTTx PON.
- Wide band LiNbO3 external modulation, narrow band CW DFB laser
- Laser APC、ATC、AWC
- All electronic adjustable
- Level MGC control
- Telecommunication-grade security and reliability and network management
- SNMP support remote management and control
- 1+1 power supply back up, up hot-plug function available
- Excellent performance price ratio in this area.

3.0 MAIN APPLICATION

- Satellite-TV long distance transmit
- Satellite-TV FTTH
- CATV, satellite-TV, Intranet, Triple-play
- Other micro-wave bandwidth long distance application.

4.0 Related products

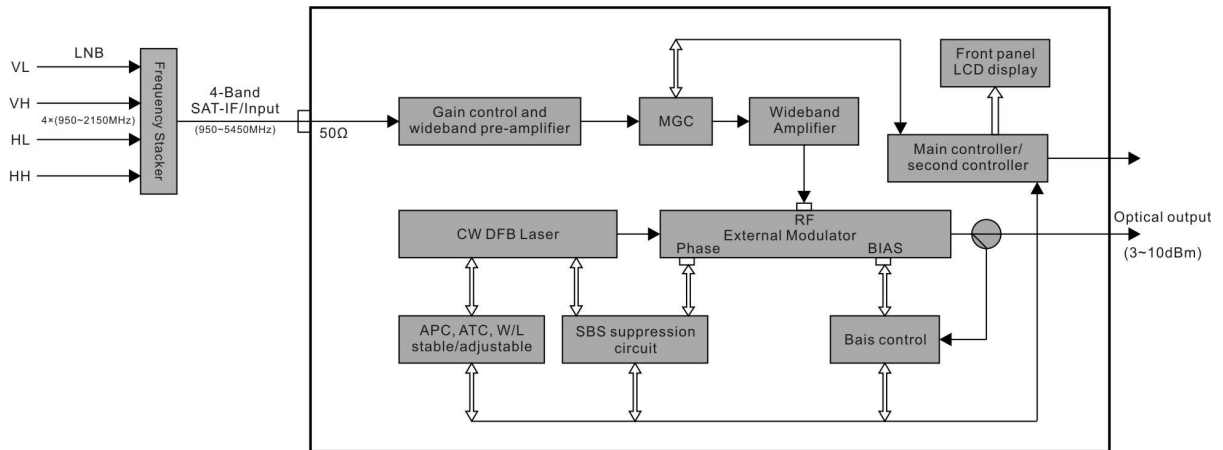
- Applicable receiver: HRS-55S

5.0 Technical index

Feature		Min.	Typ.	Max.	Supplement		
Optical feature	Operating wavelength	(nm)	1540	1550	1563	CC	
		(nm)	1528		1543	CB	
		(nm)	1528		1563	XX	
	Wavelength adjustable range	(nm)	-1.6		+1.6		
	Wavelength adjustable mode	(nm)	±0.01 stepping				
	side mode suppression ratio	(dB)	45				
	Extinction ratio	(dB)	20				
	Bandwidth	(MHz)		0.65	1		
	Equivalent noise intensity	(dB/Hz)	145			To 5500MHz	
	Output port		1		4		
	Each port output optical power	(dBm)		3			1×03, 2×03, 4×03
				5			1×05, 2×05, 4×05
				7			1×07, 2×07
				9			1×09
				10			1×10
	SBS	(dBm)	13			P2P, 60Km Fiber	
Return loss	(dB)	50			APC		
Optical fiber connector		SC/APC			FC/APC, LC/APC optional		
RF feature	Typical application	(MHz)	950		5500		
	frequency response	(dB)	-1.5		+1.5	950~5500MHz	
	IM2	(dB)	40			2 tone measurement, OMI=20% per carrier	
	IM3	(dB)	40				
	Input level	(dBm)		-20		Nominal input level	
	Input impedance	(Ω)		50			
	RF return loss	(dB)	8				
	RF connector		SMA-Female				
te perform	SNMP interface		RJ45				
	Telecommunication port		RS232				

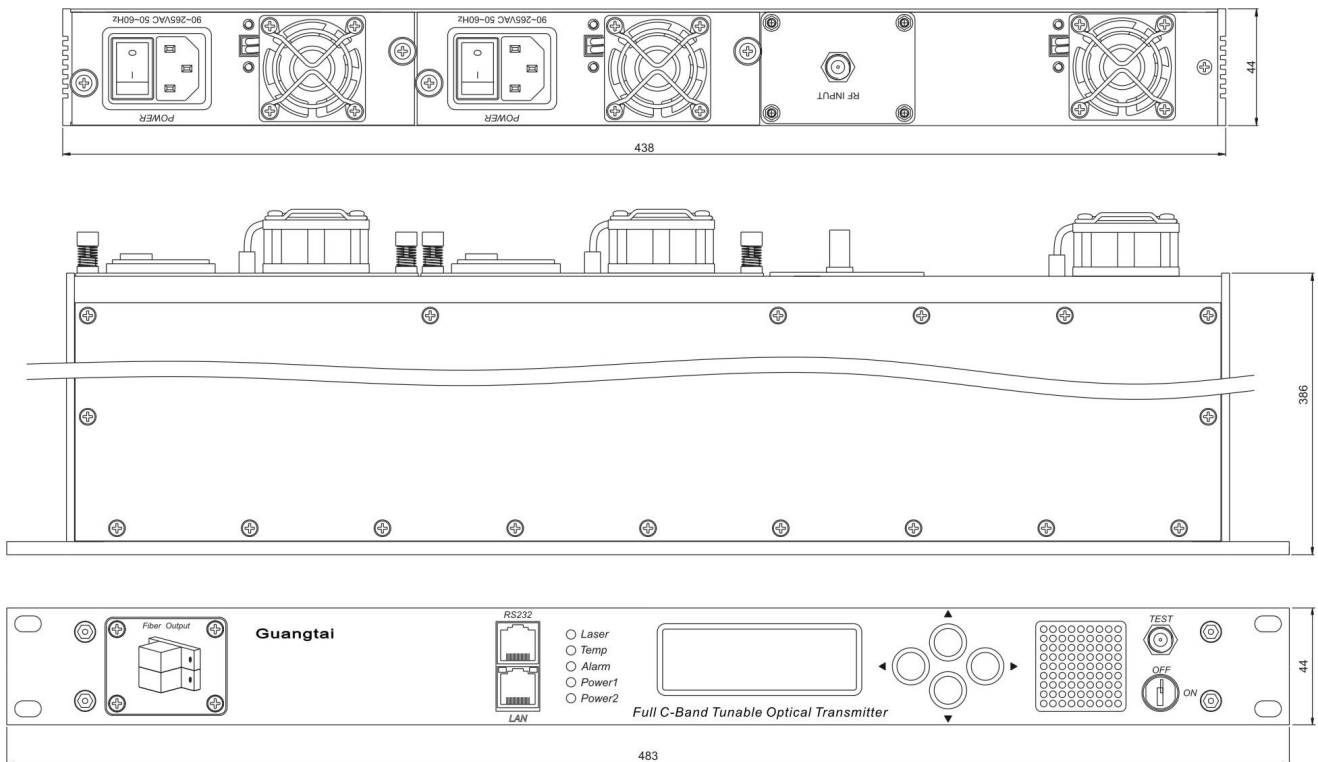
Power supply	AC	(V)	90	220	265	
	DC		-30	-48	-72	
Power loss		(W)			50	
Working Temp.		(°C)	-5		+65	
Storage Temp.		(°C)	-40		+85	
Relative humidity		(%)	5		95	
Size (W)×(D)×(H)		(")	19×14.5×1.75			

6.0 HES-55S electrical functional block diagram

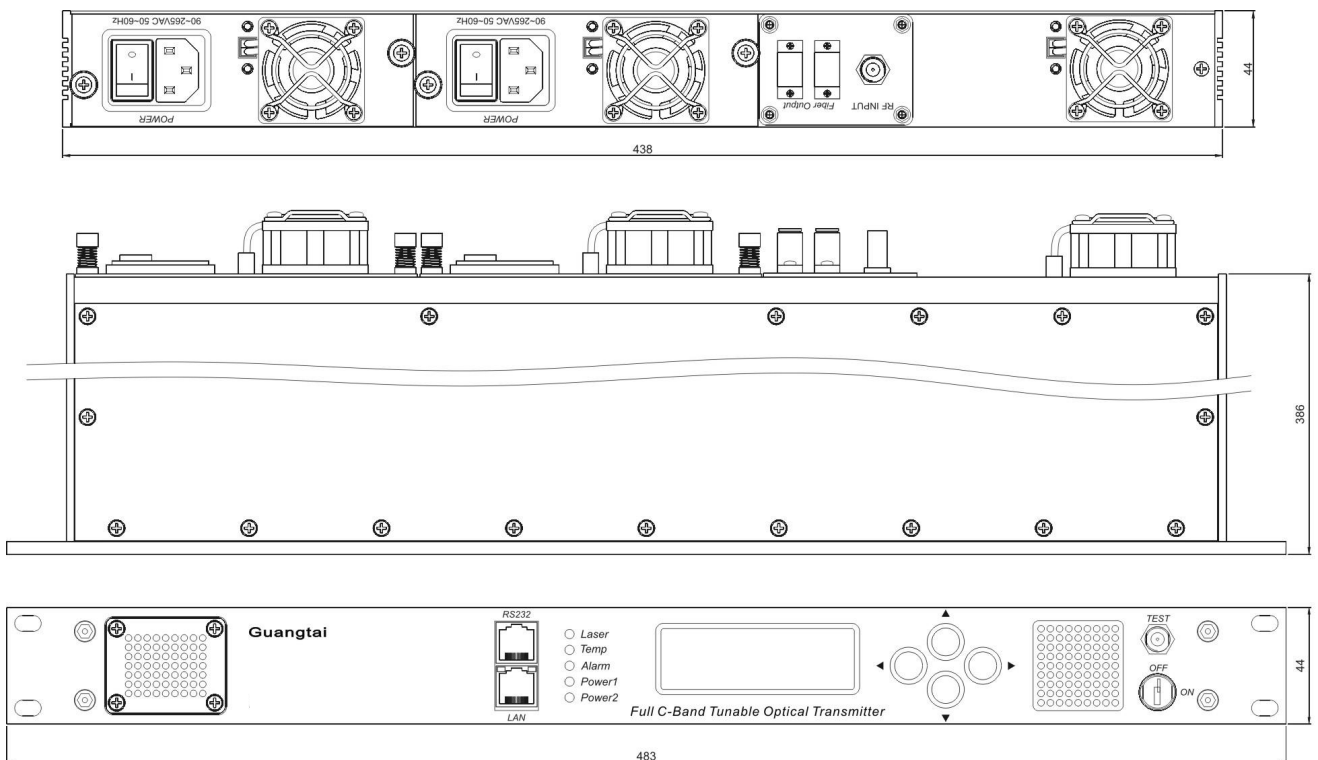


7.0 CHASSIS LENGTH

7.1 Optical port on front panel



7.2 Optical port on back panel



8.0 Product series

Model number	Work bandwidth	Optical output port	Each port output power
HES-55S-1×03-XX	950~5500MHz	1	3dBm
HES-55S-1×05-XX		1	5dBm
HES-55S-1×07-XX		1	7dBm
HES-55S-1×09-XX		1	9dBm
HES-55S-1×10-XX	950~5500MHz	1	10dBm
HES-55S-2×03-XX		2	3dBm
HES-55S-2×05-XX		2	5dBm
HES-55S-2×06-XX		2	6dBm
HES-55S-4×03-XX	950~5500MHz	4	3dBm

Remarks: Work wavelength: CB:1528~1543nm

CC:1540~1563nm

XX:1528~1563nm

9.0 Ordering instructions

HES - 55S - □ × □□ - □□ - □ / □□ - □□

Product type		Operating bandwidth		Number of output port		Output power		Wavelength		Optical port position		Connector		Power supply	
HES	Satellite Externally Modulated Optical Transmitter	55S	950~5500MHz SAT-IF	1	1 output port	03	3dBm	CC	1540~1563nm	F	Front panel	SA	SC/APC	48	-48VDC
				2	2 output ports	05	5dBm	CB	1528~1543nm	B	Back panel	FA	FC/APC	22	220VAC
HDS	Satellite Direct Modulated Optical Transmitter	55A	47~862MHz & 950~5500MHz Analog TV + SAT-IF	4	4 output ports	07	7dBm	XX	1528~1563nm			LA	LC/APC	11	110VAC
						09	9dBm								
HRS	Satellite Optical Receiver	55D	47~5500MHz Digital TV + SAT-IF			10	10dBm								