

Test Data Report

Product Name: LIM100AL6E590

Product Code: A11-0016-159

Serial Number: 3756

Small Signal RF Characterization ⁽¹⁾

Parameter	Symbol	Unit	Specification			Measured Value	Pass/Fail	Comments
			Min	Typical	Max			
E/O 3dB Bandwidth	S_{21_BW}	GHz	13			16.11	Pass	
RF Return Loss (100kHz - 6GHz)	S_{11}	dB			-10	-13.66	Pass	
RF Return Loss (8GHz - 10GHz)					-6	-6.47	Pass	

Optical Characterization ⁽²⁾

Parameter	Symbol	Unit	Specification			Measured Value	Pass/Fail	Comments
			Min	Typical	Max			
Optical Return Loss	ORL	dB			-27	-36.9	Pass	

Large Signal Link Characterization

Parameter	Symbol	Unit	Specification			Measured Value	Pass/Fail	Comments
			Min	Typical	Max			
Operating Conditions								
RF Swing	V _{RF}	V			2.5	2.5	Pass	
Operational Chip Temperature	T _{op}	C	25		40	37.2	Pass	
Operational Laser Current	I _{laser}	mA		50	85	60	Pass	
Operational Laser Bias Voltage	V _{laser}	V		2.2	2.5	2.39	Pass	
Operational Back Detector Current ⁽³⁾	I _{BD}	μA	100		1000	576	Pass	
Mark Voltage ⁽⁴⁾	V _{mk}	V	-0.75			-0.4	Pass	
Performance								
Operational Laser Wavelength	λ _{op}	nm	On ITU Grid on C-Band			1530.33	Pass	Channel: 59
Laser Side Mode Suppression Ratio	SMSR	dB	35			44	Pass	
Modulated Mean Output Power ⁽⁵⁾	P _{out}	dBm	1			1.5	Pass	
Dynamic Extinction Ratio ⁽⁵⁾	ER	dB	10.5			10.5	Pass	
Dispersion Penalty ⁽⁶⁾	DP	dB			2	0.67	Pass	

Notes:

- (1) Measurement is performed at a chip temperature of 25C, EA bias at -1.8V.
- (2) Measurement is performed passively, with all components off.
- (3) Back Detector Biased at 5V reverse bias.
- (4) Mark voltage is measured into a perfect 50ohm load.
- (5) Measured using a 2.5V_{pp} amplitude 9.95328Gbit/s 2³¹-1 PRBS data stream. DC-coupling with EA driver. Driver duty cycle is adjusted to have a 50% crossing percentage of the optical eye diagram. Dynamic extinction ratio is measured with SONET filter and received power of 1mW to the optical plug-in.
- (6) Measured under conditions defined in Notes (5) with 1600ps/nm (94km at 1550nm) SMF-28 fiber in a mid-span amplification configuration with an OSNR of greater than 35dB. Dispersion penalty is determined at BER = 1x10⁻¹².