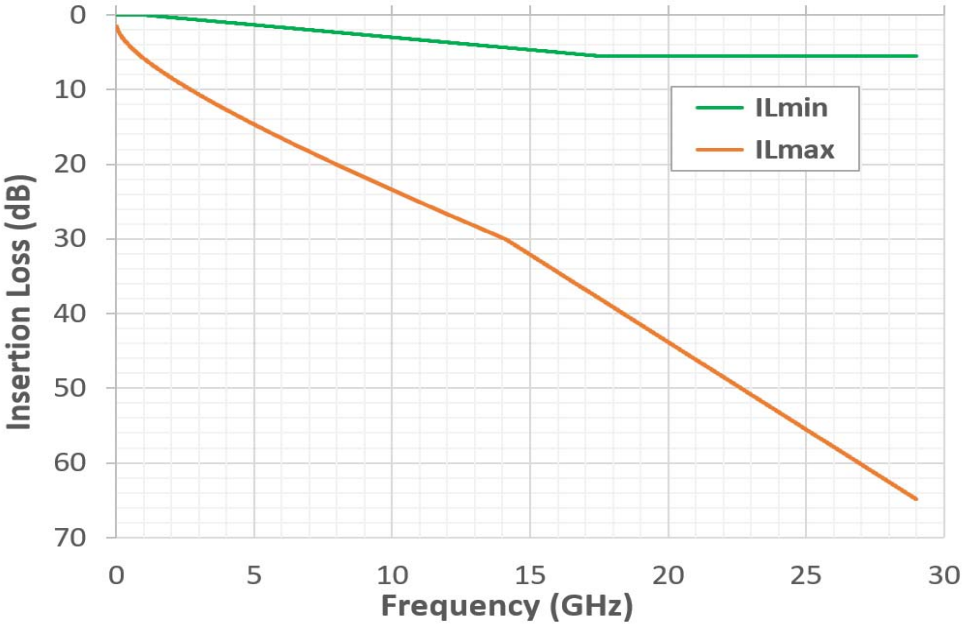
Table 21-1. COM Parameter Values

Continuous time filter, low frequency pole/scaled zero	f_{LF}	$f_b/40$	GHz
Transmitter differential peak output voltage Victim Far-end aggressor Near-end aggressor	 A_v A_{fe} A_{ne}	 0.41 0.41 0.60	 V V V
Number of signal levels	L	4	—
Level separation mismatch ratio	R_{LM}	0.95	—
Transmitter signal-to-noise ratio	SNR_{TX}	32.5	dB
Number of samples per unit interval	M	32	—
Decision feedback equalizer (DFE) length	N_b	12	UI
Normalized DFE coefficient magnitude limit for n = 2 to N_b	$b_{max}(1)$ $b_{max}(2\text{-}Nb)$	0.7 0.2	—
Random jitter, RMS	σ_{RJ}	0.01	UI
Dual-Dirac jitter, peak	A_{DD}	0.02	UI
One-sided noise spectral density	η_0	1.64×10^{-8}	V^2/GHz
Target detector error ratio	DER_0	10^{-4}	—
Channel operating margin, min	COM	3.0	dB

margin for practical limitations on the receiver implementation and the largest step size allowed for transmitter equalizer coefficients.

21.2.4.3 Informative Channel Insertion Loss

Figure 21-2.Channel Insertion Loss Limit for 29.0 Gsym/s



$$IL_{max} = \begin{bmatrix} 1.083 + 3.631\sqrt{\frac{f \times 29}{f_b}} + 1.041\frac{f \times 29}{f_b}, & f_{min} \le f \le f_b/2 \\ -3 + 2.2759\frac{f \times 29}{f_b}, & f_b/2 \le f \le f_b \end{bmatrix} \quad \text{(21-1)}$$

$$IL_{min} = \begin{bmatrix} 0, & f_{min} \le f \le 1GHz \\ \frac{1}{3}(f-1), & 1GHz \le f \le 17.5\ GHz \\ 5.5, & 17.5\ GHz < f \le f_b \end{bmatrix} \quad \text{(21-2)}$$

Channel insertion loss is an informative recommendation.

The channel must comply with the normative specification in Section 21.2.4.2.

21.2.4.4 Channel Return Loss

Figure 21-3.Channel Return Loss Limit for 29.0 Gsym/s