Comment Supplement on IEEE 802.3av D2.0

Modification Version on Subclause 75.8

Jitter at TP1-TP8 for PR10, PR20, PR30, PRX10, PRX20, PRX30 (*informative)

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Outline:

The original materials (Text, Figures, Tables and Equation) of subclause 75.8 are re-organized in a manner easier to be read through and understood.

75.8 Jitter at TP1-TP8 for PR10, PR20, PR30, PRX10, PRX20, PRX30 (*informative)

The jitter values at frequencies above 4 MHz are listed in Table 75-14 for PR10, PR20, PR30, PRX10, PRX20, PRX30 downstream and in Table 75-15 for PR10, PR20, PR30 upstream. Those in Table 75-16 relate to the jitter frequencies above 637 kHz for PRX10, PRX20, PRX30 upstream.

Table 75–14—PR10, PR20, PR30, PRX10, PRX20, PRX30 downstream jitter budgets (informative)[a]

Reference point	Total jitter	
	UI	ps
TP1	0.25	24
TP2	0.35	34
TP3	0.55	53
TP4	0.70	68

[a]NOTES:
These are preliminary jitter values based on simulations @ BER = 10^{-12} and need to be finalized.
All jitter values relate to high frequency (>4 MHz) jitter.
0.1 UI of sinusoidal jitter stress is assumed at the receiver.
The Gaussian jitter is assumed to be weak function of BER.
In downstream external modulator is assumed.

Table 75–15—PR10, PR20, PR30 upstream jitter budgets (informative)[a]

Reference point	Total jitter	
	UI	ps
TP5	0.25	24
TP6	0.40	39
TP7	0.50	48
TP8	0.70	68

[a]NOTES:
These are preliminary jitter values based on simulations @ BER = 10^{-12} and need to be finalized.
All jitter values relate to high frequency (>4 MHz) jitter.
0.1 UI of sinusoidal jitter stress is assumed at the receiver.
The Gaussian jitter is assumed to be weak function of BER.
In downstream external modulator is assumed.

Table 75–16—PRX10, PRX20, PRX30 upstream jitter budgets (informative)[a]

Reference point	Total jitter	
	UI	ps
TP1	0.24	192
TP2	0.40	320
TP3	0.49	392
TP4	0.67	536

[a]NOTES:
These numbers are reproduced from IEEE 802.3ah specifications @@Table 60–11@@ and may be revised if supported by new data.

The upstream jitter transfer function is defined by Equation 75-1. The jitter gain curve and the corresponding jitter gain values are shown in Figure 75-11 where the jitter gain P and the jitter corner frequency fc are specified in Table 75-17 for PR10, PR20, PR30 and in Table 75-18 for PRX10, PRX20, PRX30 respectively.

$$\text{Jitter Transfer} = 20\log_{10}\left[\frac{\text{Jitter on upstream signal (UI)}}{\text{Jitter on downstream signal (UI)}} \times \frac{\text{downstream\_baudrate}}{\text{upstream\_baudrate}}\right] \quad (75\text{-}1)$$

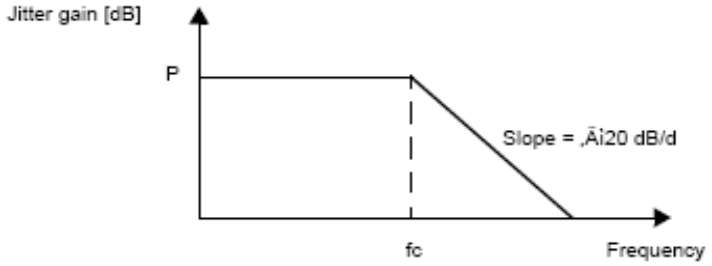

Figure 75-11—Jitter gain curve values for PR10, PR20, PR30, PRX10, PRX20, PRX30

Table 75–17—Jitter gain curve values for PR10, PR20 and PR30

	Value	Unit
P	0.3	dB
fc	8	MHz

Table 75–18—Jitter gain curve values for PRX10, PRX20 and PRX30

	Value	Unit
P	0.3	dB
fc	1274	kHz

In measuring TP1 and TP5 it is recommended that jitter contributions at frequencies below receiver corner frequencies viz. 4 MHz for 10.3125 GBd receiver and 637 kHz for 1.25 GBd receiver are filtered at the measurement unit. The following sections describe definitive patterns and test procedures for certain PMDs of this standard. Implementers using alternative verification methods must ensure adequate correlation and allow adequate margin such that specifications are met by reference to the definitive methods. All optical measurements, except TDP and $RIN_{15}OMA$ shall be made through a short patch cable between 2 and 5 m in length.