

10G EPON Power Budget

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Conditions

- All the values are given in ITU formalism (average power, minimum ER as shown)
 - These are used to calculate OMA values, which will be the normative values in the specification
- The receiver sensitivities in the budget tables are defined at the BER of 10^{-3}
- They assume a FEC code with a coding gain of equal or better than RS(255, 223)
- If the selected FEC code gain is less, then the budget values must be adjusted upward to compensate

Downstream Power Budget

Budget	PR10	PR20	PR30
Wavelength (nm)	15xx	15xx	1577
OLT Tx max (dBm)	+4	+9	+5
OLT Tx min (dBm)	+1	+5	+2
Extinction Ratio	9	9	9
OLT Tx Technology	EML	EML+SOA	EML
Max Channel Loss (dB)	20	24	29
Penalty (dB)	1	1	1
ONU Sensitivity (dBm)	-20	-20	-28
ONU Rx Technology	PIN w/ FEC	PIN w/ FEC	APD w/ FEC
Min Channel Loss (dB)	5	10	15
ONU Rx Overload (dBm)	-1	-1	-10

Upstream Power Budget

Budget	PR10	PR20	PR30
Wavelength (nm)	1270nm	1270nm	1270nm
ONU Tx max (dBm)	+4	+4	+9
ONU Tx min (dBm)	-1	-1	+4
Extinction Ratio	6	6	6
ONU Tx Technology	DML	DML	Hi DML
Max Channel Loss (dB)	20	24	29
Penalty (dB)	1	1	1
OLT Sensitivity (dBm)	-22	-26	-26
OLT Rx Technology	APD w/ FEC	APD w/ FEC	APD w/ FEC
Min Channel Loss (dB)	5	10	15
OLT Rx Overload (dBm)	-1	-6	-6

Exact Budget Calculations

- Values contained herein are reflected in the optical link spreadsheet
- Following slides are snapshots of that document
 - Apologize in advance for small fonts!
 - See spreadsheet for better look

PR10 Downstream

Parameter name	Value	Unit	Description	Value min	Value max
Transmitter parameters					
ITU_ERnom	9.00	dB	Extinction Ratio used to convert average power values to OMA values	0.00	9.00
ITU_Tx_Ave_Min	1.00	dBm	Average output power in ITU format (min)	-99.00	99.00
ITU_Tx_Ave_Max	4.00	dBm	Average output power in ITU format (max)	-99.00	99.00
IEEE_Tx_OMA_Min	2.91	dBm	Average output power in IEEE OMA format (min)		
Tx_Wavelength_Min	1580.00	nm	Transmitter wavelength (min)	1200.00	1600.00
Tx_Wavelength_Max	1600.00	nm	Transmitter wavelength (max)	1200.00	1600.00
Tx_Wavelength_Uc	1590.00	nm	Transmitter wavelength (central wavelength)	1580.00	1600.00
Tx_Chirp_Parameter_Max	0.00	-	Chirp parameter for transmitter signal (max) [C] (Normal DML's are negative)		
Tx_Data_Rate	10312.50	MBd	Effective data rate in Mbaud	9500	11500
Link parameters					
Fibre_Attenuation_Curve	lambda^-4	-	Fibre attenuation curve type (lambda^-4,G652AB,G652CD models)		
Fibre_Attenuation_Curve_Type	min	-	Maximum / minimum value curve (not available for lambda^-4 model)		
Fibre_Attenuation_Base_Value	0.35	dB/km	Base fibre attenuation (for lambda^-4 model)	0	1
Fibre_Attenuation_Base_Wavelength	1550.00	nm	Base wavelength for fibre attenuation estimation		
Fibre_Attenuation_Value	0.34	dB/km	Fibre attenuation at base wavelength		
Channel_Length_Max	10	km	Maximum distance between an ONU and the OLT	0.5	20
Fibre_Loss	3.44	dB	Fibre (no connectors) CHIL @ Tx_Uc		
PSC_Split_count	16.00	-	Number of splitter ports (powers of 2 only)	2	64
PSC_Loss_Curve	max	-	Type of PSC loss curve (minimum, average and maximum types)		
PSC_Loss	14.93	dB	PSC induced CHIL		
SRS_Loss	1.00	dB	SRS induced nonlinear penalty (from other services)		10
Excess_Loss	0.63	dB	Connectors, splices and any other excess loss		
ITU_Optical_Path_Penalty	1.00	dB	Optical path penalty in accordance with ITU definition	0	5
Channel_Loss_Min	5.00	dB	Channel Insertion Loss (CHIL) (min) - user input	0	20.00
Channel_Loss_Max	20.00	dB	Channel Insertion Loss (CHIL) (max)		29
Dispersion_Uo_Min	1300.00	nm			
Dispersion_Uo_Max	1300.00	nm			
Dispersion_So	0.09	ps/nm^2.km			
Dispersion_D_Max	20.99	ps/(nm.km)			
Dispersion_D_Min	19.90	ps/(nm.km)			
Dispersion_Penalty	0.11	dB	Dispersion penalty calculated following 3av_0705_saeki_1.pdf		
TDP	1.00	dB	Transmitter Dispersion Penalty	0	10
Receiver parameters					
ITU_Rx_Sensitivity_Ave	-20.00	dBm	Average power receiver sensitivity @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	-18.09	dBm	OMA receiver sensitivity (dBm) @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	68.39	uW	OMA receiver sensitivity (uW) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_Ave	-19.00	dBm	Average stressed receiver sensitivity in IEEE formalism @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	-17.09	dBm	OMA stressed receiver sensitivity in IEEE formalism (dBm) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	79.33	uW	OMA stressed receiver sensitivity in IEEE formalism (uW) @ BER 1e-3		
IEEE_Rx_Sen_OMA	-18.09	dBm	OMA ideal receiver sensitivity in IEEE formalism (dBm)		
IEEE_Rx_Sen_OMA	68.39	uW	OMA ideal receiver sensitivity in IEEE formalism (uW)		
Rx_Overload	-1.00	dBm	This is what the overload needs to be...		

PR20 Downstream

Parameter name	Value	Unit	Description	Value min	Value max
Transmitter parameters					
ITU_ERnom	9.00	dB	Extinction Ratio used to convert average power values to OMA values	0.00	9.00
ITU_Tx_Ave_Min	5.00	dBm	Average output power in ITU format (min)	-99.00	99.00
ITU_Tx_Ave_Max	9.00	dBm	Average output power in ITU format (max)	-99.00	99.00
IEEE_Tx_OMA_Min	6.91	dBm	Average output power in IEEE OMA format (min)		
Tx_Wavelength_Min	1580.00	nm	Transmitter wavelength (min)	1200.00	1600.00
Tx_Wavelength_Max	1600.00	nm	Transmitter wavelength (max)	1200.00	1600.00
Tx_Wavelength_Uc	1590.00	nm	Transmitter wavelength (central wavelength)	1580.00	1600.00
Tx_Chirp_Parameter_Max	0.00	-	Chirp parameter for transmitter signal (max) [C] (Normal DML's are negative)		
Tx_Data_Rate	10312.50	MBd	Effective data rate in Mbaud	9500	11500
Link parameters					
Fibre_Attenuation_Curve	lambda^-4	-	Fibre attenuation curve type (lambda^-4,G652AB,G652CD models)		
Fibre_Attenuation_Curve_Type	min	-	Maximum / minimum value curve (not available for lambda^-4 model)		
Fibre_Attenuation_Base_Value	0.35	dB/km	Base fibre attenuation (for lambda^-4 model)	0	1
Fibre_Attenuation_Base_Wavelength	1550.00	nm	Base wavelength for fibre attenuation estimation		
Fibre_Attenuation_Value	0.34	dB/km	Fibre attenuation at base wavelength		
Channel_Length_Max	20	km	Maximum distance between an ONU and the OLT	0.5	20
Fibre_Loss	6.88	dB	Fibre (no connectors) CHIL @ Tx_Uc		
PSC_Split_count	16.00	-	Number of splitter ports (powers of 2 only)	2	64
PSC_Loss_Curve	max	-	Type of PSC loss curve (minimum, average and maximum types)		
PSC_Loss	14.93	dB	PSC induced CHIL		
SRS_Loss	1.00	dB	SRS induced nonlinear penalty (from other services)		10
Excess_Loss	1.19	dB	Connectors, splices and any other excess loss		
ITU_Optical_Path_Penalty	1.00	dB	Optical path penalty in accordance with ITU definition	0	5
Channel_Loss_Min	10.00	dB	Channel Insertion Loss (CHIL) (min) - user input	0	24.00
Channel_Loss_Max	24.00	dB	Channel Insertion Loss (CHIL) (max)		29
Dispersion_Uo_Min	1300.00	nm			
Dispersion_Uo_Max	1300.00	nm			
Dispersion_So	0.09	ps/nm^2.km			
Dispersion_D_Max	20.99	ps/(nm.km)			
Dispersion_D_Min	19.90	ps/(nm.km)			
Dispersion_Penalty	0.40	dB	Dispersion penalty calculated following 3av_0705_saeki_1.pdf		
TDP	1.00	dB	Transmitter Dispersion Penalty	0	10
Receiver parameters					
ITU_Rx_Sensitivity_Ave	-20.00	dBm	Average power receiver sensitivity @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	-18.09	dBm	OMA receiver sensitivity (dBm) @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	68.39	uW	OMA receiver sensitivity (uW) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_Ave	-19.00	dBm	Average stressed receiver sensitivity in IEEE formalism @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	-17.09	dBm	OMA stressed receiver sensitivity in IEEE formalism (dBm) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	79.33	uW	OMA stressed receiver sensitivity in IEEE formalism (uW) @ BER 1e-3		
IEEE_Rx_Sen_OMA	-18.09	dBm	OMA ideal receiver sensitivity in IEEE formalism (dBm)		
IEEE_Rx_Sen_OMA	68.39	uW	OMA ideal receiver sensitivity in IEEE formalism (uW)		
Rx_Overload	-1.00	dBm	This is what the overload needs to be...		

PR30 Downstream

Parameter name	Value	Unit	Description	Value min	Value max
Transmitter parameters					
ITU_ERnom	9.00	dB	Extinction Ratio used to convert average power values to OMA values	0.00	9.00
ITU_Tx_Ave_Min	2.00	dBm	Average output power in ITU format (min)	-99.00	99.00
ITU_Tx_Ave_Max	5.00	dBm	Average output power in ITU format (max)	-99.00	99.00
IEEE_Tx_OMA_Min	3.91	dBm	Average output power in IEEE OMA format (min)		
Tx_Wavelength_Min	1574.00	nm	Transmitter wavelength (min)	1200.00	1600.00
Tx_Wavelength_Max	1580.00	nm	Transmitter wavelength (max)	1200.00	1600.00
Tx_Wavelength_Uc	1577.00	nm	Transmitter wavelength (central wavelength)	1574.00	1580.00
Tx_Chirp_Parameter_Max	0.00	-	Chirp parameter for transmitter signal (max) [C] (Normal DML's are negative)		
Tx_Data_Rate	10312.50	MBd	Effective data rate in Mbaud	9500	11500
Link parameters					
Fibre_Attenuation_Curve	lambda^-4	-	Fibre attenuation curve type (lambda^-4,G652AB,G652CD models)		
Fibre_Attenuation_Curve_Type	min	-	Maximum / minimum value curve (not available for lambda^-4 model)		
Fibre_Attenuation_Base_Value	0.35	dB/km	Base fibre attenuation (for lambda^-4 model)	0	1
Fibre_Attenuation_Base_Wavelength	1550.00	nm	Base wavelength for fibre attenuation estimation		
Fibre_Attenuation_Value	0.35	dB/km	Fibre attenuation at base wavelength		
Channel_Length_Max	20	km	Maximum distance between an ONU and the OLT	0.5	20
Fibre_Loss	6.92	dB	Fibre (no connectors) CHIL @ Tx_Uc		
PSC_Split_count	32.00	-	Number of splitter ports (powers of 2 only)	2	64
PSC_Loss_Curve	max	-	Type of PSC loss curve (minimum, average and maximum types)		
PSC_Loss	18.40	dB	PSC induced CHIL		
SRS_Loss	1.00	dB	SRS induced nonlinear penalty (from other services)		10
Excess_Loss	2.68	dB	Connectors, splices and any other excess loss		
ITU_Optical_Path_Penalty	1.00	dB	Optical path penalty in accordance with ITU definition	0	5
Channel_Loss_Min	15.00	dB	Channel Insertion Loss (CHIL) (min) - user input	0	29.00
Channel_Loss_Max	29.00	dB	Channel Insertion Loss (CHIL) (max)		29
Dispersion_Uo_Min	1300.00	nm			
Dispersion_Uo_Max	1300.00	nm			
Dispersion_So	0.09	ps/nm^2.km			
Dispersion_D_Max	19.90	ps/(nm.km)			
Dispersion_D_Min	19.57	ps/(nm.km)			
Dispersion_Penalty	0.38	dB	Dispersion penalty calculated following 3av_0705_saeki_1.pdf		
TDP	1.00	dB	Transmitter Dispersion Penalty	0	10
Receiver parameters					
ITU_Rx_Sensitivity_Ave	-28.00	dBm	Average power receiver sensitivity @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	-26.09	dBm	OMA receiver sensitivity (dBm) @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	20.88	uW	OMA receiver sensitivity (uW) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_Ave	-27.00	dBm	Average stressed receiver sensitivity in IEEE formalism @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	-25.09	dBm	OMA stressed receiver sensitivity in IEEE formalism (dBm) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	24.22	uW	OMA stressed receiver sensitivity in IEEE formalism (uW) @ BER 1e-3		
IEEE_Rx_Sen_OMA	-26.09	dBm	OMA ideal receiver sensitivity in IEEE formalism (dBm)		
IEEE_Rx_Sen_OMA	20.88	uW	OMA ideal receiver sensitivity in IEEE formalism (uW)		
Rx_Overload	-10.00	dBm	This is what the overload needs to be...		

PR10 Upstream

Parameter name	Value	Unit	Description	Value min	Value max
Transmitter parameters					
ITU_ERnom	6.00	dB	Extinction Ratio used to convert average power values to OMA values	0.00	9.00
ITU_Tx_Ave_Min	-1.00	dBm	Average output power in ITU format (min)	-99.00	99.00
ITU_Tx_Ave_Max	4.00	dBm	Average output power in ITU format (max)	-99.00	99.00
IEEE_Tx_OMA_Min	-0.22	dBm	Average output power in IEEE OMA format (min)		
Tx_Wavelength_Min	1260.00	nm	Transmitter wavelength (min)	1200.00	1600.00
Tx_Wavelength_Max	1280.00	nm	Transmitter wavelength (max)	1200.00	1600.00
Tx_Wavelength_Uc	1270.00	nm	Transmitter wavelength (central wavelength)	1260.00	1280.00
Tx_Chirp_Parameter_Max	-2.00	-	Chirp parameter for transmitter signal (max) [C] (Normal DML's are negative)		
Tx_Data_Rate	10312.50	MBd	Effective data rate in Mbaud	9500	11500
Link parameters					
Fibre_Attenuation_Curve	lambda^-4	-	Fibre attenuation curve type (lambda^-4,G652AB,G652CD models)		
Fibre_Attenuation_Curve_Type	min	-	Maximum / minimum value curve (not available for lambda^-4 model)		
Fibre_Attenuation_Base_Value	0.35	dB/km	Base fibre attenuation (for lambda^-4 model)	0	1
Fibre_Attenuation_Base_Wavelength	1310.00	nm	Base wavelength for fibre attenuation estimation		
Fibre_Attenuation_Value	0.36	dB/km	Fibre attenuation at base wavelength		
Channel_Length_Max	10	km	Maximum distance between an ONU and the OLT	0.5	20
Fibre_Loss	3.64	dB	Fibre (no connectors) CHIL @ Tx_Uc		
PSC_Split_count	16.00	-	Number of splitter ports (powers of 2 only)	2	64
PSC_Loss_Curve	max	-	Type of PSC loss curve (minimum, average and maximum types)		
PSC_Loss	14.93	dB	PSC induced CHIL		
SRS_Loss	1.00	dB	SRS induced nonlinear penalty (from other services)		10
Excess_Loss	0.43	dB	Connectors, splices and any other excess loss		
ITU_Optical_Path_Penalty	1.00	dB	Optical path penalty in accordance with ITU definition	0	5
Channel_Loss_Min	5.00	dB	Channel Insertion Loss (CHIL) (min) - user input	0	20.00
Channel_Loss_Max	20.00	dB	Channel Insertion Loss (CHIL) (max)		29
Dispersion_Uo_Min	1300.00	nm			
Dispersion_Uo_Max	1324.00	nm			
Dispersion_So	0.09	ps/nm^2.km			
Dispersion_D_Max	-1.90	ps/(nm.km)			
Dispersion_D_Min	-6.42	ps/(nm.km)			
Dispersion_Penalty	-0.41	dB	Dispersion penalty calculated following 3av_0705_saeki_1.pdf		
TDP	1.00	dB	Transmitter Dispersion Penalty	0	10
Receiver parameters					
ITU_Rx_Sensitivity_Ave	-22.00	dBm	Average power receiver sensitivity @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	-21.22	dBm	OMA receiver sensitivity (dBm) @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	16.87	uW	OMA receiver sensitivity (uW) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_Ave	-21.00	dBm	Average stressed receiver sensitivity in IEEE formalism @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	-20.22	dBm	OMA stressed receiver sensitivity in IEEE formalism (dBm) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	20.45	uW	OMA stressed receiver sensitivity in IEEE formalism (uW) @ BER 1e-3		
IEEE_Rx_Sen_OMA	-21.22	dBm	OMA ideal receiver sensitivity in IEEE formalism (dBm)		
IEEE_Rx_Sen_OMA	16.87	uW	OMA ideal receiver sensitivity in IEEE formalism (uW)		
Rx_Overload	-1.00	dBm	This is what the overload needs to be...		

PR20 Upstream

Parameter name	Value	Unit	Description	Value min	Value max
Transmitter parameters					
ITU_ERnom	6.00	dB	Extinction Ratio used to convert average power values to OMA values	0.00	9.00
ITU_Tx_Ave_Min	-1.00	dBm	Average output power in ITU format (min)	-99.00	99.00
ITU_Tx_Ave_Max	4.00	dBm	Average output power in ITU format (max)	-99.00	99.00
IEEE_Tx_OMA_Min	-0.22	dBm	Average output power in IEEE OMA format (min)		
Tx_Wavelength_Min	1260.00	nm	Transmitter wavelength (min)	1200.00	1600.00
Tx_Wavelength_Max	1280.00	nm	Transmitter wavelength (max)	1200.00	1600.00
Tx_Wavelength_Uc	1270.00	nm	Transmitter wavelength (central wavelength)	1260.00	1280.00
Tx_Chirp_Parameter_Max	-2.00	-	Chirp parameter for transmitter signal (max) [C] (Normal DML's are negative)		
Tx_Data_Rate	10312.50	MBd	Effective data rate in Mbaud	9500	11500
Link parameters					
Fibre_Attenuation_Curve	lambda^-4	-	Fibre attenuation curve type (lambda^-4,G652AB,G652CD models)		
Fibre_Attenuation_Curve_Type	min	-	Maximum / minimum value curve (not available for lambda^-4 model)		
Fibre_Attenuation_Base_Value	0.35	dB/km	Base fibre attenuation (for lambda^-4 model)	0	1
Fibre_Attenuation_Base_Wavelength	1310.00	nm	Base wavelength for fibre attenuation estimation		
Fibre_Attenuation_Value	0.36	dB/km	Fibre attenuation at base wavelength		
Channel_Length_Max	20	km	Maximum distance between an ONU and the OLT	0.5	20
Fibre_Loss	7.27	dB	Fibre (no connectors) CHIL @ Tx_Uc		
PSC_Split_count	16.00	-	Number of splitter ports (powers of 2 only)	2	64
PSC_Loss_Curve	max	-	Type of PSC loss curve (minimum, average and maximum types)		
PSC_Loss	14.93	dB	PSC induced CHIL		
SRS_Loss	1.00	dB	SRS induced nonlinear penalty (from other services)		10
Excess_Loss	0.80	dB	Connectors, splices and any other excess loss		
ITU_Optical_Path_Penalty	1.00	dB	Optical path penalty in accordance with ITU definition	0	5
Channel_Loss_Min	10.00	dB	Channel Insertion Loss (CHIL) (min) - user input	0	24.00
Channel_Loss_Max	24.00	dB	Channel Insertion Loss (CHIL) (max)		29
Dispersion_Uo_Min	1300.00	nm			
Dispersion_Uo_Max	1324.00	nm			
Dispersion_So	0.09	ps/nm^2.km			
Dispersion_D_Max	-1.90	ps/(nm.km)			
Dispersion_D_Min	-6.42	ps/(nm.km)			
Dispersion_Penalty	-0.86	dB	Dispersion penalty calculated following 3av_0705_saeki_1.pdf		
TDP	1.00	dB	Transmitter Dispersion Penalty	0	10
Receiver parameters					
ITU_Rx_Sensitivity_Ave	-26.00	dBm	Average power receiver sensitivity @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	-25.22	dBm	OMA receiver sensitivity (dBm) @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	7.82	uW	OMA receiver sensitivity (uW) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_Ave	-25.00	dBm	Average stressed receiver sensitivity in IEEE formalism @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	-24.22	dBm	OMA stressed receiver sensitivity in IEEE formalism (dBm) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	9.48	uW	OMA stressed receiver sensitivity in IEEE formalism (uW) @ BER 1e-3		
IEEE_Rx_Sen_OMA	-25.22	dBm	OMA ideal receiver sensitivity in IEEE formalism (dBm)		
IEEE_Rx_Sen_OMA	7.82	uW	OMA ideal receiver sensitivity in IEEE formalism (uW)		
Rx_Overload	-6.00	dBm	This is what the overload needs to be...		

PR30 Upstream

Parameter name	Value	Unit	Description	Value min	Value max
Transmitter parameters					
ITU_ERnom	6.00	dB	Extinction Ratio used to convert average power values to OMA values	0.00	9.00
ITU_Tx_Ave_Min	4.00	dBm	Average output power in ITU format (min)	-99.00	99.00
ITU_Tx_Ave_Max	9.00	dBm	Average output power in ITU format (max)	-99.00	99.00
IEEE_Tx_OMA_Min	4.78	dBm	Average output power in IEEE OMA format (min)		
Tx_Wavelength_Min	1260.00	nm	Transmitter wavelength (min)	1200.00	1600.00
Tx_Wavelength_Max	1280.00	nm	Transmitter wavelength (max)	1200.00	1600.00
Tx_Wavelength_Uc	1270.00	nm	Transmitter wavelength (central wavelength)	1260.00	1280.00
Tx_Chirp_Parameter_Max	-2.00	-	Chirp parameter for transmitter signal (max) [C] (Normal DML's are negative)		
Tx_Data_Rate	10312.50	MBd	Effective data rate in Mbaud	9500	11500
Link parameters					
Fibre_Attenuation_Curve	lambda^-4	-	Fibre attenuation curve type (lambda^-4,G652AB,G652CD models)		
Fibre_Attenuation_Curve_Type	min	-	Maximum / minimum value curve (not available for lambda^-4 model)		
Fibre_Attenuation_Base_Value	0.35	dB/km	Base fibre attenuation (for lambda^-4 model)	0	1
Fibre_Attenuation_Base_Wavelength	1310.00	nm	Base wavelength for fibre attenuation estimation		
Fibre_Attenuation_Value	0.36	dB/km	Fibre attenuation at base wavelength		
Channel_Length_Max	20	km	Maximum distance between an ONU and the OLT	0.5	20
Fibre_Loss	7.27	dB	Fibre (no connectors) CHIL @ Tx_Uc		
PSC_Split_count	32.00	-	Number of splitter ports (powers of 2 only)	2	64
PSC_Loss_Curve	max	-	Type of PSC loss curve (minimum, average and maximum types)		
PSC_Loss	18.40	dB	PSC induced CHIL		
SRS_Loss	1.00	dB	SRS induced nonlinear penalty (from other services)		10
Excess_Loss	2.33	dB	Connectors, splices and any other excess loss		
ITU_Optical_Path_Penalty	1.00	dB	Optical path penalty in accordance with ITU definition	0	5
Channel_Loss_Min	15.00	dB	Channel Insertion Loss (CHIL) (min) - user input	0	29.00
Channel_Loss_Max	29.00	dB	Channel Insertion Loss (CHIL) (max)		29
Dispersion_Uo_Min	1300.00	nm			
Dispersion_Uo_Max	1324.00	nm			
Dispersion_So	0.09	ps/nm^2.km			
Dispersion_D_Max	-1.90	ps/(nm.km)			
Dispersion_D_Min	-6.42	ps/(nm.km)			
Dispersion_Penalty	-0.86	dB	Dispersion penalty calculated following 3av_0705_saeki_1.pdf		
TDP	1.00	dB	Transmitter Dispersion Penalty	0	10
Receiver parameters					
ITU_Rx_Sensitivity_Ave	-26.00	dBm	Average power receiver sensitivity @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	-25.22	dBm	OMA receiver sensitivity (dBm) @ BER 1e-3		
ITU_Rx_Sensitivity_Ave_OMA	7.82	uW	OMA receiver sensitivity (uW) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_Ave	-25.00	dBm	Average stressed receiver sensitivity in IEEE formalism @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	-24.22	dBm	OMA stressed receiver sensitivity in IEEE formalism (dBm) @ BER 1e-3		
IEEE_Rx_Stressed_Sensitivity_OMA	9.48	uW	OMA stressed receiver sensitivity in IEEE formalism (uW) @ BER 1e-3		
IEEE_Rx_Sen_OMA	-25.22	dBm	OMA ideal receiver sensitivity in IEEE formalism (dBm)		
IEEE_Rx_Sen_OMA	7.82	uW	OMA ideal receiver sensitivity in IEEE formalism (uW)		
Rx_Overload	-6.00	dBm	This is what the overload needs to be...		

Number of PMDs

	Tx Min/Max (dBm)	Tx λ (nm)	Rx Sens/Ovr (dBm)	Rx λ (nm)
OLT #1	+1/+4	15xx-15xx	-22/-1	1260-1280
OLT #2	+2/+5	1574-1580	-26/-6	1260-1280
OLT #3	+5/+9	15xx-15xx	-26/-6	1260-1280
ONU #1	-1/+4	1260-1280	-20/-1	15xx-15xx
ONU #2	+4/+9	1260-1280	-28/-10	1574-1580