International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

G.671

Amendment 3

(03/2008)

SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

Transmission media and optical systems characteristics – Characteristics of optical components and subsystems

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Transmission characteristics of optical components and subsystems

Amendment 3: Modification of the parameter tables for the passive (chromatic) dispersion compensator and the single optical channel passive (chromatic) dispersion compensator

ITU-T Recommendation G.671 (2005) – Amendment 3

ITU-T G-SERIES RECOMMENDATIONS

TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

INTERNATIONAL TELEPHONE CONNECTIONS AND CIRCUITS	G.100–G.199
GENERAL CHARACTERISTICS COMMON TO ALL ANALOGUE CARRIER-TRANSMISSION SYSTEMS	G.200–G.299
INDIVIDUAL CHARACTERISTICS OF INTERNATIONAL CARRIER TELEPHONE SYSTEMS ON METALLIC LINES	G.300–G.399
GENERAL CHARACTERISTICS OF INTERNATIONAL CARRIER TELEPHONE SYSTEMS ON RADIO-RELAY OR SATELLITE LINKS AND INTERCONNECTION WITH METALLIC LINES	G.400–G.449
COORDINATION OF RADIOTELEPHONY AND LINE TELEPHONY	G.450–G.499
TRANSMISSION MEDIA AND OPTICAL SYSTEMS CHARACTERISTICS	G.600–G.699
General	G.600–G.609
Symmetric cable pairs	G.610–G.619
Land coaxial cable pairs	G.620–G.629
Submarine cables	G.630–G.639
Free space optical systems	G.640–G.649
Optical fibre cables	G.650–G.659
Characteristics of optical components and subsystems	**G.660–G.679**
Characteristics of optical systems	G.680–G.699
DIGITAL TERMINAL EQUIPMENTS	G.700–G.799
DIGITAL NETWORKS	G.800–G.899
DIGITAL SECTIONS AND DIGITAL LINE SYSTEM	G.900–G.999
QUALITY OF SERVICE AND PERFORMANCE – GENERIC AND USER-RELATED ASPECTS	G.1000–G.1999
TRANSMISSION MEDIA CHARACTERISTICS	G.6000–G.6999
DATA OVER TRANSPORT – GENERIC ASPECTS	G.7000–G.7999
PACKET OVER TRANSPORT ASPECTS	G.8000–G.8999
ACCESS NETWORKS	G.9000–G.9999

For further details, please refer to the list of ITU-T Recommendations.

ITU-T Recommendation G.671

Transmission characteristics of optical components and subsystems

Amendment 3

Modification of the parameter tables for the passive (chromatic) dispersion compensator and the single optical channel passive (chromatic) dispersion compensator

Summary

Amendment 3 to ITU-T Recommendation G.671 (2005) contains modifications to modify the parameter tables for the passive (chromatic) dispersion compensator and the single optical channel passive (chromatic) dispersion compensator.

NOTE – The numbering of these two tables has been changed as a consequence of the modifications contained in Amendment 1.

Source

Amendment 3 to ITU-T Recommendation G.671 (2005) was approved on 29 March 2008 by ITU-T Study Group 15 (2005-2008) under the ITU-T Recommendation A.8 procedure.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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CONTENTS

ITU-T Recommendation G.671

Transmission characteristics of optical components and subsystems

Amendment 3

Modification of the parameter tables for the passive (chromatic) dispersion compensator and the single optical channel passive (chromatic) dispersion compensator

1) Clause 5

Modify Notes 5 and 6 in clause 5 as shown below:

NOTE 5 – For some passive dispersion compensators, the operating wavelength range can be narrower, but covering the wavelength range of the used optical source.

For example, there are some passive dispersion compensators that are optimized for the C-band and others that accommodate the C+L bands.

NOTE 6 – ~~Values derived from assumptions of compensating a specific length of G.652 type fibre, using the equation found in I.2/G.652, although other lengths and assumptions are under study.~~ Values of maximum and minimum dispersion at any wavelength λ (in nm) within the operating wavelength range can be found by substituting the value of λ into the given function and multiplying by the value of G.652 equivalent compensation of the dispersion compensator in km.

For example, for a dispersion compensator with 40 km of G.652 equivalent compensation, the limits in 5.9.21 result in the requirements:

$$40[-15.8-0.058(\lambda-1550)] \geq D(\lambda) \geq 40[-17.6-0.058(\lambda-1550)]$$

Where D(λ) is the dispersion in ps/nm and λ is the wavelength in nm.

Values for compensators of lengths of G.653 and G.655 fibre are under study.

2) Clause 5.10

Modify Clause 5.10 (Clause 5.9 before the changes from Amendment 1 were applied) as shown below:

5.10 Passive (chromatic) dispersion compensator

Clause	Parameter ~~(km of G.652 equivalent compensation)~~	Max	Min	Test method
	Insertion loss (dB) for G.652 equivalent compensation length (in km) of:			IEC 61300-3-4, IEC 61300-3-7
5.10.1	2.5	ffs	na	
5.10.2	5	ffs	na	
5.10.3	7.5	ffs	na	
5.10.4	10	ffs	na	

Clause	Parameter ~~(km of G.652 equivalent compensation)~~	Max	Min	Test method
5.10.5	20	3.6	ffs	
5.10.6	30	ffs	ffs	
5.10.7	40	5.5	ffs	
5.10.8	50	ffs	ffs	
5.10.9	60	7.5	ffs	
5.10.10	70	ffs	ffs	
5.10.11	80	9.5	ffs	
5.10.12	90	ffs	ffs	
5.10.13	100	11.5	ffs	
5.10.14	110	ffs	ffs	
5.10.15	120	13.5	ffs	
5.10.16	Reflectance (dB)	–27	na	IEC 61300-3-6
5.10.17	Operating wavelength range (nm) (Note 5)	~~1565~~1616	1525	IEC 61300-3-7
5.10.18	Polarization dependent loss (PDL) (dB)	ffs	na	IEC 61300-3-2, IEC 61300-3-12
5.10.19	Polarization dependent reflectance (dB)	ffs	na	IEC 61300-3-19
5.10.20	Allowable input power (dBm)	ffs (Note 2)	na	ffs
5.10.21	Dispersion ~~over operating wavelength range (Note 6) (ps/nm)~~ coefficient (ps/nm/km) at wavelength λ (nm) of G.652 equivalent compensation (Note 6)	–15.8 – 0.058*(λ–1550)	–17.6 – 0.058*(λ–1550)	ffs
~~5.10.21~~	~~2.5~~	~~ffs~~	~~ffs~~	
~~5.10.22~~	~~5~~	~~ffs~~	~~ffs~~	
~~5.10.23~~	~~7.5~~	~~ffs~~	~~ffs~~	
~~5.10.24~~	~~10~~	~~ffs~~	~~ffs~~	
~~5.10.25~~	~~20~~	~~–310~~	~~–360~~	
~~5.10.26~~	~~30~~	~~ffs~~	~~ffs~~	
~~5.10.27~~	~~40~~	~~–620~~	~~–710~~	
~~5.10.28~~	~~50~~	~~ffs~~	~~ffs~~	
~~5.10.29~~	~~60~~	~~–930~~	~~–1070~~	
~~5.10.30~~	~~70~~	~~ffs~~	~~ffs~~	
~~5.10.31~~	~~80~~	~~–1240~~	~~–1420~~	
~~5.10.32~~	~~90~~	~~ffs~~	~~ffs~~	
~~5.10.33~~	~~100~~	~~–1550~~	~~–1780~~	
~~5.10.34~~	~~110~~	~~ffs~~	~~ffs~~	
~~5.10.35~~	~~120~~	~~–1860~~	~~–2140~~	

Clause	Parameter ~~(km of G.652 equivalent compensation)~~	Max	Min	Test method
5.10.22	Polarization mode dispersion (PMD) (Note 7) (ps)	ffs	na	ITU-T Rec. G.650 (Note 3)
~~5.10.36~~	~~2.5~~	~~ffs~~	~~na~~	
~~5.10.37~~	~~5~~	~~ffs~~	~~na~~	
~~5.10.38~~	~~7.5~~	~~ffs~~	~~na~~	
~~5.10.39~~	~~10~~	~~ffs~~	~~na~~	
~~5.10.40~~	~~20~~	~~ffs~~	~~na~~	
~~5.10.41~~	~~40~~	~~ffs~~	~~na~~	
~~5.10.42~~	~~60~~	~~ffs~~	~~na~~	
~~5.10.43~~	~~80~~	~~ffs~~	~~na~~	
~~5.10.44~~	~~100~~	~~ffs~~	~~na~~	
~~5.10.45~~	~~120~~	~~ffs~~	~~na~~	

3) Clause 5.16

Modify Clause *5.16 (*Clause *5.15 before the changes from Amendment 1 were applied) as shown below*:

5.16 Single optical channel passive (chromatic) dispersion compensator

Clause	Parameter ~~(km of G.652 equivalent compensation)~~	Max	Min	Test method
	Dispersion over the channel frequency range (ps/nm) for G.652 equivalent compensation length (in km) of:			ffs
5.16.1	10	–168	–178	
5.16.2	20	–337	–356	
5.16.3	30	–506	–533	
5.16.4	40	–675	–711	
5.16.5	50	–844	–888	
5.16.6	60	–1013	–1066	
5.16.7	70	–1182	–1244	
5.16.8	80	–1351	–1421	
5.16.9	Insertion loss	ffs	ffs	IEC 61300-3-4, IEC 61300-3-7
5.16.10	Reflectance (dB)	–27	na	IEC 61300-3-6
5.16.11	Channel frequency range (THz)	192.14	192.06	
	Polarization dependent loss (PDL) (dB)	ffs	na	IEC 61300-3-2, IEC 61300-3-12
5.16.12	Polarization dependent reflectance (dB)	ffs	na	IEC 61300-3-19
5.16.13	Allowable input power (dBm)	ffs (Note 2)	na	ffs

Clause	Parameter ~~(km of G.652 equivalent compensation)~~	Max	Min	Test method
5.16.14	Polarization mode dispersion (PMD) (Note 7) (ps)	ffs	na	ITU-T Rec. G.650 (Note 3)

SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	**Transmission systems and media, digital systems and networks**
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Cable networks and transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	Telecommunication management, including TMN and network maintenance
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks, open system communications and security
Series Y	Global information infrastructure, Internet protocol aspects and next-generation networks
Series Z	Languages and general software aspects for telecommunication systems

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