

PATENT STATEMENT AND LICENSING DECLARATION FORM FOR
ITU-T OR ITU-R RECOMMENDATION | ISO OR IEC DELIVERABLE



**Patent Statement and Licensing Declaration
for ITU-T or ITU-R Recommendation | ISO or IEC Deliverable**

This declaration does not represent an actual grant of a license

Please return to the relevant organization(s) as instructed below per document type:

Director
Telecommunication
Standardization Bureau
International Telecommunication
Union
Place des Nations
CH-1211 Geneva 20,
Switzerland
Fax: +41 22 730 5853
Email: tsbdir@itu.int

Director
Radiocommunication Bureau
International Telecommunication
Union
Place des Nations
CH-1211 Geneva 20,
Switzerland
Fax: +41 22 730 5785
Email: brmail@itu.int

Secretary-General
International Organization for
Standardization
8 Chemin de Blandonnet
CP 401
1214 Vernier, Geneva
Switzerland
Fax: +41 22 733 3430
Email:
patent.statements@iso.org

General Secretary
International Electrotechnical
Commission
3 rue de Varembé
CH-1211 Geneva 20
Switzerland
Fax: +41 22 919 0300
Email:
inmail@iec.ch

Patent Holder:

Legal Name ZTE Corporation

Contact for license application:

Name & Department CHEN Guanglei, Intellectual Property Department

Address 21/F, No.55, Hi-tech Road South, Nanshan District, Shenzhen, 518057, P. R. China

Tel. 86 -029-83636669

Fax

E-mail chen.guanglei2@zte.com.cn

URL (optional)

Document type:



ITU-T Rec. (*)



ITU-R Rec. (*)



ISO Deliverable (*)



IEC Deliverable (*)

(please return the form to the relevant Organization)



Common text or twin text (ITU-T Rec. | ISO/IEC Deliverable (*) (for common text or twin text, please return the form to each of the three Organizations: ITU-T, ISO, IEC)



ISO/IEC Deliverable (*) (for ISO/IEC Deliverables, please return the form to both ISO and IEC)
ITU-T: G.987.1, G.987.3, G.987.4

(*)Number

(*)Title

G.987.1: 10-Gigabit-capable passive optical networks (XG-PON): General requirements
G.987.3: 10-Gigabit-capable passive optical networks (XG-PON): Transmission convergence (TC) layer specification
G.987.4: 10-Gigabit-capable passive optical networks (XG-PON): Reach extension

Licensing declaration:

The Patent Holder believes that it holds granted and/or pending applications for Patents, the use of which would be required to implement the above document and hereby declares, in accordance with the Common Patent Policy for ITU-T/ITU-R/ISO/IEC, that (check one box only):

☐

1. The Patent Holder is prepared to grant a Free of Charge license to an unrestricted number of applicants on a worldwide, non-discriminatory basis and under other reasonable terms and conditions to make, use, and sell implementations of the above document.
Negotiations are left to the parties concerned and are performed outside the ITU-T, ITU-R, ISO or IEC.

Also mark here ___ if the Patent Holder's willingness to license is conditioned on Reciprocity for the above document.

Also mark here ___ if the Patent Holder reserves the right to license on reasonable terms and conditions (but not Free of Charge) to applicants who are only willing to license their Patent, whose use would be required to implement the above document, on reasonable terms and conditions (but not Free of Charge).

☒

2. The Patent Holder is prepared to grant a license to an unrestricted number of applicants on a worldwide, non-discriminatory basis and on reasonable terms and conditions to make, use and sell implementations of the above document.
Negotiations are left to the parties concerned and are performed outside the ITU-T, ITU-R, ISO, or IEC.

Also mark here ✓ if the Patent Holder's willingness to license is conditioned on Reciprocity for the above document.

☐

3. The Patent Holder is unwilling to grant licenses in accordance with provisions of either 1 or 2 above.

In this case, the following information must be provided to ITU, ISO and/or IEC as part of this declaration:

- granted patent number or patent application number (if pending);
- an indication of which portions of the above document are affected;
- a description of the Patents covering the above document.

Free of Charge: The words "Free of Charge" do not mean that the Patent Holder is waiving all of its rights with respect to the Patent. Rather, "Free of Charge" refers to the issue of monetary compensation; *i.e.*, that the Patent Holder will not seek any monetary compensation as part of the licensing arrangement (whether such compensation is called a royalty, a one-time licensing fee, etc.). However, while the Patent Holder in this situation is committing to not charging any monetary amount, the Patent Holder is still entitled to require that the implementer of the same above document sign a license agreement that contains other reasonable terms and conditions such as those relating to governing law, field of use, warranties, etc.

Reciprocity: The word "Reciprocity" means that the Patent Holder shall only be required to license any prospective licensee if such prospective licensee will commit to license its Patent(s) for implementation of the same above document Free of Charge or under reasonable terms and conditions.

Patent: The word "Patent" means those claims contained in and identified by patents, utility models and other similar statutory rights based on inventions (including applications for any of these) solely to the extent that any such claims are essential to the implementation of the same above document. Essential patents are patents that would be required to implement a specific Recommendation | Deliverable.

Assignment/transfer of Patent rights: Licensing declarations made pursuant to Clause 2.1 or 2.2 of the Common Patent Policy for ITU-T/ITU-R/ISO/IEC shall be interpreted as encumbrances that bind all successors-in-interest as to the transferred Patents. Recognizing that this interpretation may not apply in all jurisdictions, any Patent Holder who has submitted a licensing declaration according to the Common Patent Policy - be it selected as option 1 or 2 on the Patent Declaration form - who transfers ownership of a Patent that is subject to such licensing declaration shall include appropriate provisions in the relevant transfer documents to ensure that, as to such transferred Patent, the licensing declaration is binding on the transferee and that the transferee will similarly include appropriate provisions in the event of future transfers with the goal of binding all successors-in-interest.

Patent Information (desired but not required for options 1 and 2; required in ITU, ISO and IEC for option 3 (NOTE))				
No.	Status [granted/ pending]	Country	Granted Patent Number or Application Number (if pending)	Title
1	Granted	CN	CN101998193B	Key protection method and system for passive optical network
2	Granted	CN	CN101989888B	Indicating method and system for opening/closing forward error correction coding (FEC) function
3	Granted	CN	CN101778313B	A kind of method reporting in time for realizing optical network unit
4	Granted	CN	CN102065344B	Method for data transmission and system for gigabit passive optical network
5	Granted	EP	EP2498451	Method for data transmission and system for gigabit passive optical network
6	Granted	US	US8909044	Method for transmitting data and gigabit-capable passive optical network system
7	Granted	CN	CN101873516B	Method for registering and activating optical network unit in a gigabit passive optical network system
8	Granted	CN	CN101877798B	Coexistence system of existing passive optical network and next generation passive optical network and updating method
9	Granted	EP	EP2439956	Transmission method, assembling method and transmission device for physical layer operations, administration and maintenance, ploom, message in a passive optical network
10	Granted	CN	CN101998183B	Transmission Method and Assembling Method for Physical Layer Operations, Administration and Maintenance (PLOAM) Message in a Passive Optical Network
11	Granted	US	US8619591	Transmission Method and Assembling Method for Physical Layer Operations, Administration and Maintenance (PLOAM) Message in a Passive Optical Network
12	Granted	EP	EP2536039	Method and system for uplink bandwidth allocation in a passive optical network
13	Granted	CN	CN102158770B	Method and system for upstream bandwidth allocation in a passive optical network
14	Granted	US	US8934772	Method and system for upstream bandwidth allocation in a passive optical network
15	Granted	CN	CN102237932B	Long Reach Optical Amplification Device, Passive Optical Network, and Method for Transmitting Optical Signals
16	Granted	US	US8923697	Long Reach Optical Amplification Device, Passive Optical Network, and Method for Transmitting Optical Signals

Patent Information (desired but not required for options 1 and 2; required in ITU, ISO and IEC for option 3 (NOTE))				
No.	Status [granted/ pending]	Country	Granted Patent Number or Application Number (if pending)	Title
17	Granted	BR	BR11201202742 01	Long-distance box and method for processing uplink and downlink lights thereof
18	Granted	EP	EP2533447	Long-distance box and method for processing uplink and downlink lights thereof
19	Granted	CN	CN102238438B	Long-distance box and method for processing uplink and downlink lights thereof
20	Granted	JP	JP5689528	Long-range boxes and methods for processing for uplink/downlink light in long-range boxes
21	Granted	US	US8724997	Long-distance box and method for processing uplink and downlink lights thereof
22	Granted	CN	CN101729939B	Method and system for distributing passive optical network bandwidth
23	Granted	CN	CN107302397B	Passive optical network architecture, method for realizing data transmission and optical network equipment
24	Granted	CN	CN107370688B	Data transmission method and device
25	Granted	EP	EP3429102	Passive optical network architecture, method for passive optical network architecture to implement data transmission, and optical network device
26	Granted	US	US10659185	Passive optical network architecture, method for passive optical network architecture to implement data transmission, and optical network device
27	Granted	CN	CN107302412B	Passive optical network architecture, method for passive optical network architecture to implement data transmission, and optical network device
28	Granted	EP	EP3541088	Method, device and system for bearing a frame sequence number in a multichannel passive optical network
29	Granted	CN	CN108063985B	Method and device for sending and receiving data
30	Granted	US	US10798472	Method and device for sending and receiving data
31	Granted	CN	CN108023835B	Data transmitting and receiving method and device, ONU and OLT
32	Granted	EP	EP3537673	Data sending and receiving method and device, onu, and olt
33	Granted	EP	EP2997684	Using noisy window for uncalibrated optical network unit activation
34	Granted	US	US10003428	Using noisy window for uncalibrated optical network unit activation
35	Granted	CN	CN105359441B	USING NOISY WINDOW FOR UNCALIBRATED OPTICAL NETWORK UNIT ACTIVATION

Patent Information (desired but not required for options 1 and 2; required in ITU, ISO and IEC for option 3 (NOTE))				
No.	Status [granted/ pending]	Country	Granted Patent Number or Application Number (if pending)	Title
36	Granted	CN	CN103166697B	Equalization delay agnostic protection switching in protected passive optical networks
37	Granted	US	US9025949	Equalization delay agnostic protection switching in protected passive optical networks
38	Granted	US	US9497076	Dual-stack support for demarc auto configuration (dac) mechanism in docsis provisioning of epon (dpoe)network
39	Granted	CN	CN103313149B	DUAL-STACK SUPPORT FOR DEMARC AUTO CONFIGURATION (DAC) MECHANISM IN DOCSIS PROVISIONING OF EPON (DPOE) NETWORK
40	Granted	CN	CN104769890B	10 gigabit per second capable passive optical network system with flexible nominal upstream bitrate
41	Granted	US	US9749078	10 gigabit per second capable passive optical network system with flexible nominal upstream bitrate
42	Granted	US	US10044467	Method and apparatus of downstream forward error correction on-off control in XG-PON1 and NG-PON2 TWDM-PON systems
43	Granted	CN	CN105027451B	Method and apparatus of downstream forward error correction on-off control in XG-PON1 and NG-PON2 TWDM-PON systems
44	Granted	CN	CN101483792B	Prohibiting/enabling method and system for optical network terminal
45	Granted	CN	CN101383767B	Uplink bandwidth allocation method and optical line terminal
46	Granted	CN	CN101800914B	Key switching method and system
47	Granted	CN	CN102045601B	Optical network unit (ONU) activating method and system in gigabit passive optical network (GPON) system
48	Granted	CN	CN102056030B	Gbit passive optical network system and data input and data output method thereof
49	Granted	CN	CN102045602B	Method, optical line terminal and optical network unit that frame is delimited
50	Granted	CN	CN102075277B	Method and system for synchronizing uplink transmission in passive optical network
51	Granted	CN	CN102088641B	Configuration method and device of passive optical network (PON) service
52	Granted	CN	CN102082976B	Method and system for sending data in passive optical network (PON)
53	Granted	CN	CN101873166B	A kind of distance-finding method of Gbit passive optical network system

Patent Information (desired but not required for options 1 and 2; required in ITU, ISO and IEC for option 3 (NOTE))				
No.	Status [granted/ pending]	Country	Granted Patent Number or Application Number (if pending)	Title
54	Granted	CN	CN102480651B	Multi-rate optical signal transmission method, multi-rate optical signal transmission system and optical network unit
55	Granted	CN	CN102833640B	A kind of transmission method and device of parameter granularity
56	Granted	CN	CN102223586B	Registration activation method and system for optical network unit
57	Granted	CN	CN102594444B	A kind of method and system realizing full protection modes
58	Granted	CN	CN103220044B	A kind of optical access network system, Apparatus and method for
59	Granted	CN	CN103220588B	A kind of register method of optical network unit and system
60	Granted	CN	CN103051984B	Optical signal transmission method and device
61	Granted	EP	EP2768160	Method and apparatus for processing uplink data abnormality
62	Granted	CN	CN103051983B	Method and apparatus for processing uplink data abnormality
63	Granted	CN	CN103840960B	A kind of business collocation method and system of passive optical network
64	Granted	CN	CN103856836B	The method of sending and receiving of user data and system, equipment in passive optical network
65	Granted	CN	CN105577265B	Calibration method of uplink wavelength channel of passive optical network system and optical network unit

☐ Check here if additional patent information is provided on additional pages.

NOTE: For option 3, the additional minimum information that shall also be provided is listed in the option 3 box above.

Signature (include on final page only):	
Patent Holder	<u>ZTE Corporation</u>
Name of authorized person	<u>CHEN Guanglei</u>
Title of authorized person	<u>IPR Director</u>
Signature	<u>CHEN Guanglei</u>
Place, Date	<u>XI AN, China March 26, 2025</u>

FORM version: 2 November 2018