

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT8250883

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
FUTUREWEI TECHNOLOGIES, INC.	11/02/2021
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	HUAWEI TECHNOLOGIES CO., LTD.
<b>Street Address:</b>	HUAWEI ADMINISTRATION BUILDING
<b>Internal Address:</b>	BANTIAN, LONGGANG DISTRICT
<b>City:</b>	SHENZHEN, GUANGDONG PROVINCE
<b>State/Country:</b>	CHINA
<b>Postal Code:</b>	518129
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	17703401
<b>CORRESPONDENCE DATA</b>	
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<b>ATTORNEY DOCKET NUMBER:</b>	4502-63613 (6000133US85)
<b>NAME OF SUBMITTER:</b>	WILLIAM H. DIETRICH
<b>SIGNATURE:</b>	/William H. Dietrich/
<b>DATE SIGNED:</b>	10/31/2023
<b>Total Attachments: 6</b>	
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**ASSIGNMENT AGREEMENT**

WHEREAS, FUTUREWEI TECHNOLOGIES, INC., a corporation of the state of Texas, located at 5700 Tennyson Parkway, Suite 600, Plano, TX 75024, hereinafter referred to as "Assignor" is the owner of the invention described and set forth in the below-identified applications for Letters Patent.

Application No.	Title of Invention	Filing Date	Country/Receiving Office
PCT/US2020/035179	OPEN SHORTEST PATH FIRST (OSPF) SERVICE GROUP DEDICATED DATABASES	29-May-2020	US
PCT/US2020/033595	REFERENCE PICTURE MANAGEMENT IN LAYERED VIDEO CODING	19-May-2020	US
PCT/US2020/034741	INTER CODING IN VIDEO CODING WITH THE SUPPORT OF MULTIPLE LAYERS	27-May-2020	US
PCT/US2020/036311	NETWORK CONNECTIVITY VERIFICATION AND NEGOTIATION	5-Jun-2020	US
PCT/US2020/038857	PREFERRED PATH ROUTING FAST REROUTE USE OF SEGMENT ROUTING HEADER	20-Jun-2020	US
PCT/US2020/038956	SEMICONDUCTOR LASER WITH A MODE EXPANSION LAYER	22-Jun-2020	US
PCT/US2020/039756	SYSTEM AND METHOD FOR ABSTRACTING AN IGP ZONE	26-Jun-2020	US
PCT/US2020/039360	HYPOTHETICAL REFERENCE DECODER FOR V-PCC	24-Jun-2020	US
PCT/US2020/040775	TYPES OF REFERENCE PICTURES IN REFERENCE PICTURE LISTS	2-Jul-2020	US
PCT/US2020/040776	TYPES OF REFERENCE PICTURES IN REFERENCE PICTURE LISTS	2-Jul-2020	US
PCT/US2020/040613	SYSTEM AND METHODS FOR COMPUTING FLOODING TOPOLOGY	2-Jul-2020	US
PCT/US2020/037780	VIDEO CODING BITSTREAM EXTRACTION WITH IDENTIFIER SIGNALING	15-Jun-2020	US
PCT/US2020/041026	HANDLING OF MULTIPLE PICTURE SIZE AND CONFORMANCE WINDOWS FOR REFERENCE PICTURE RESAMPLING IN VIDEO CODING	7-Jul-2020	US



PCT/US2020/041035	MIXED NAL UNIT PICTURE CONSTRAINTS IN VIDEO CODING	7-Jul-2020	US
PCT/US2020/041032	EXTERNAL DECODING REFRESH (EDR) IN VIDEO CODING	7-Jul-2020	US
PCT/US2020/041666	ALF APS CONSTRAINTS IN VIDEO CODING	10-Jul-2020	US
PCT/US2020/050835	SIGNALING SUBPICTURE IDS IN SUBPICTURE BASED VIDEO CODING	15-Sep-2020	US
PCT/US2020/050837	INDICATION OF ONE SLICE PER SUBPICTURE IN SUBPICTURE-BASED VIDEO CODING	15-Sep-2020	US
PCT/US2020/049732	SIMULCAST LAYERS FOR MULTIVIEW IN VIDEO CODING	8-Sep-2020	US
PCT/US2020/051605	OLS FOR SPATIAL AND SNR SCALABILITY	18-Sep-2020	US
PCT/US2020/051608	OLS FOR MULTIVIEW SCALABILITY	18-Sep-2020	US
PCT/US2020/050904	DISALLOWING UNUSED LAYERS IN MULTI-LAYER VIDEO BITSTREAMS	15-Sep-2020	US
PCT/US2020/050905	DISALLOWING UNNECESSARY LAYERS IN MULTI-LAYER VIDEO BITSTREAMS	15-Sep-2020	US
PCT/US2020/051278	SIGNALING OF DPB PARAMETERS FOR MULTI-LAYER VIDEO BITSTREAMS	17-Sep-2020	US
PCT/US2020/051279	SIGNALING OF DPB PARAMETERS FOR MULTI-LAYER VIDEO BITSTREAMS	17-Sep-2020	US
PCT/US2020/050985	SUPPORT OF MIXED IRAP AND NON-IRAP PICTURES WITHIN AN ACCESS UNIT IN MULTI-LAYER VIDEO BITSTREAMS	16-Sep-2020	US
PCT/US2020/050988	SUPPORT OF MIXED IRAP AND NON-IRAP PICTURES WITHIN AN ACCESS UNIT IN MULTI-LAYER VIDEO BITSTREAMS	16-Sep-2020	US
PCT/US2020/050395	SCALABLE NESTING SEI MESSAGES FOR OLS	11-Sep-2020	US
PCT/US2020/051857	SCALABLE NESTING SEI MESSAGES FOR SPECIFIED LAYERS	21-Sep-2020	US
PCT/US2020/051859	SCALABLE NESTING SEI MESSAGES FOR ALL LAYERS	21-Sep-2020	US
PCT/US2020/051826	PICTURE TIMING AND DECODING UNIT INFORMATION FOR TEMPORAL SCALABILITY	21-Sep-2020	US

PCT/US2020/045033	SIGNALING OF PICTURE HEADER IN VIDEO CODING	5-Aug-2020	US
PCT/US2020/045037	SIGNALING OF PICTURE HEADER IN VIDEO CODING	5-Aug-2020	US
PCT/US2020/045038	SIGNALING OF PICTURE HEADER IN VIDEO CODING	5-Aug-2020	US
PCT/US2020/045040	SIGNALING OF PICTURE HEADER IN VIDEO CODING	5-Aug-2020	US
PCT/US2020/045042	SIGNALING OF PICTURE HEADER IN VIDEO CODING	5-Aug-2020	US
PCT/US2020/045045	SIGNALING OF PICTURE HEADER IN VIDEO CODING	5-Aug-2020	US
PCT/US2020/052281	SIGNALING OF NON-PICTURE-LEVEL SYNTAX ELEMENTS AT THE PICTURE LEVEL	23-Sep-2020	US
PCT/US2020/052287	FILTER FLAGS FOR SUBPICTURE DEBLOCKING	23-Sep-2020	US
PCT/US2020/049719	HRD CONFORMANCE TESTS ON OLS	8-Sep-2020	US
PCT/US2020/049723	SEQUENCE-LEVEL HRD PARAMETERS	8-Sep-2020	US
PCT/US2020/049725	HRD PARAMETERS FOR LAYERS	8-Sep-2020	US
PCT/US2020/049727	SEI MESSAGE FOR SINGLE LAYER OLS	8-Sep-2020	US
PCT/US2020/049729	HRD PARAMETERS FOR LAYER BASED CONFORMANCE TESTING	8-Sep-2020	US
PCT/US2020/049730	ERROR MITIGATION FOR SUBLAYERS IN VIDEO CODING	8-Sep-2020	US
PCT/US2020/049731	SCALABLE NESTING SEI MESSAGE MANAGEMENT	8-Sep-2020	US
PCT/US2020/051311	LAYER BASED PARAMETER SET NAL UNIT CONSTRAINTS	17-Sep-2020	US
PCT/US2020/051313	TEMPORAL IDENTIFIER CONSTRAINTS FOR SEI MESSAGES	17-Sep-2020	US
PCT/US2020/051314	DECODED PICTURE BUFFER OPERATION FOR RESOLUTION CHANGES	17-Sep-2020	US
PCT/US2020/051315	SCALABLE NESTING FOR SUFFIX SEI MESSAGES	17-Sep-2020	US
PCT/US2020/051316	SEI MESSAGE DEPENDENCY SIMPLIFICATION IN VIDEO CODING	17-Sep-2020	US
PCT/US2020/054448	AVOIDANCE OF REDUNDANT SIGNALING IN MULTI-LAYER VIDEO BITSTREAMS	6-Oct-2020	US

PCT/US2020/054449	AVOIDANCE OF REDUNDANT SIGNALING IN MULTI-LAYER VIDEO BITSTREAMS	6-Oct-2020	US
PCT/US2020/054450	AVOIDANCE OF REDUNDANT SIGNALING IN MULTI-LAYER VIDEO BITSTREAMS	6-Oct-2020	US
PCT/US2020/054451	AVOIDANCE OF REDUNDANT SIGNALING IN MULTI-LAYER VIDEO BITSTREAMS	6-Oct-2020	US
PCT/US2020/054452	ERROR AVOIDANCE IN SUB-BITSTREAM EXTRACTION	6-Oct-2020	US
PCT/US2020/054453	SPS ERROR AVOIDANCE IN SUB-BITSTREAM EXTRACTION	6-Oct-2020	US
PCT/US2020/054454	DPB SIZE BASED REFERENCE PICTURE ENTRY CONSTRAINTS	6-Oct-2020	US
PCT/US2020/054414	VIDEO-BASED POINT CLOUD COMPRESSION (V-PCC) COMPONENT SYNCHRONIZATION	6-Oct-2020	US
PCT/US2020/054417	VIDEO-BASED POINT CLOUD COMPRESSION (V-PCC) TIMING INFORMATION	6-Oct-2020	US
PCT/US2019/057323	SUPER-SYMBOL SIGNALING IN OPTICAL COMMUNICATION SYSTEMS	22-Oct-2019	US
PCT/US2019/063637	DIFRACTIVE DEEP NEURAL NETWORK (D2NN) PROCESSING USING A SINGLE MODULATION LAYER	2-Nov-2019	US
PCT/US2021/012319	SIGNALING CAMERA PARAMETERS IN POINT CLOUD CODING	6-Jan-2021	US
PCT/US2020/066695	PCE CONTROLLED NETWORK RELIABILITY	22-Dec-2020	US
PCT/US2021/016422	ADDRESS SOLVING FOR INSTRUCTION SEQUENCE GENERATION	3-Feb-2021	US
PCT/US2020/041825	PARAMETERIZED METHOD FOR NETWORK SUBGRAPH ROOT NODE SELECTION	13-Jul-2020	US
PCT/US2020/042207	REAL-TIME NETWORK-WIDE LINK LATENCY MONITORING WITH IN-NETWORK INT SAMPLING AND AGGREGATION	15-Jul-2020	US
PCT/US2020/042209	APPARATUS AND METHODS FOR MITIGATING MULTIPATH	15-Jul-2020	US

	INTERFERENCE IN FIBER TRANSMISSION SYSTEM		
PCT/US2020/063109	SYSTEM AND METHODS FOR PHOTO IN-PAINTING OF UNWANTED OBJECTS WITH AUXILIARY PHOTOS ON SMARTPHONE	3-Dec-2020	US
PCT/US2020/063883	MEDIA PACKETIZATION FOR NETWORK QUALITATIVE COMMUNICATION	9-Dec-2020	US
PCT/US2020/065302	CYCLIC QUEUING AND FORWARDING (CQF) SEGMENTATION	16-Dec-2020	US

WHEREAS, HUAWEI TECHNOLOGIES CO., LTD., a corporation of China, located at Huawei Administration Building, Bantian, Longgang District, Shenzhen, 518129, Guangdong, P.R. China, hereinafter referred to as "Assignee", is desirous of acquiring an interest in the invention and application and in any Letters Patent and Registrations which may be granted, and wherever such Letters patent and Registrations may be granted on the same;

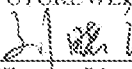
For good and valuable consideration, receipt and sufficiency of which is hereby acknowledged by Assignor, Assignor has assigned, and by these presents hereby does and will assign to Assignee all right (including the right to claim priority and the right to sue for and to recover damages for infringement by any unauthorized third party before the date of this Assignment), title, and interest in and to the invention and application (including any priority applications) and to all foreign counterparts (including patent, utility model and industrial designs), and in and to any Letters Patent and Registrations which may hereafter be granted on the same in the United States and all countries throughout the world, and to claim the priority from the application as provided by the Paris Convention. The right, title and interest is to be held and enjoyed by Assignee and Assignee's successors and assigns as fully and exclusively as it would have been held and enjoyed by Assignor had this Assignment not been made, for the full term of any Letters Patent and Registrations which may be granted thereon, as well as for any division, renewal, continuation in whole or in part, substitution, conversion, reissue, reexamination, supplemental examination, prolongation or extension thereof.

Assignor further agrees that it will, with respect to the assigned and, without charge to Assignee, but at Assignee's expense, (a) cooperate with Assignee in the prosecution of U.S. Patent applications and foreign counterparts on the invention and any improvements, (b) execute, verify, acknowledge and deliver all such further papers, including patent applications and instruments of transfer, and (c) perform such other acts as Assignee lawfully may request to obtain or maintain Letters Patent and Registrations for the invention and improvements or division, renewal, continuation in whole or in part, substitution, conversion, reissue, reexamination, supplemental examination, prolongation or extension thereof which may be granted thereon, in any and all countries, and to vest title thereto in Assignee, or Assignee's successors and assigns.

All matters pertaining to interpreting of the provisions of this Assignment shall be governed and construed in accordance with the laws of the State of Texas, United States of America, excluding Texas' conflict of law principles that could cause the application of the laws of any other jurisdiction.

This ASSIGNMENT AGREEMENT confirms the effective date of the Assignment to be the date that the Application is filed, or a priority date or priority dates that the application claims, whichever is earlier. This ASSIGNMENT AGREEMENT is hereby agreed by both Assignee and Assignor on the date when the Assignee signs this ASSIGNMENT AGREEMENT, or the date when the Assignor signs this ASSIGNMENT AGREEMENT, whichever is later.

For and on behalf of Assignor by:  Date: 2 November 2021  
Paul Hashim  
Title: Vice President, Chief Patent Counsel,  
FUTUREWEI TECHNOLOGIES, INC.

For and on behalf of Assignee by:  Date: 2-Nov-2021  
Xiaoqing Liu  
Title: Supervisor of System Platform & Process Dept.,  
HUAWEI TECHNOLOGIES CO., LTD.

