

refer to data capable of being transmitted, received and/or stored in accordance with embodiments of the present invention. Thus, use of any such terms should not be taken to limit the spirit and scope of embodiments of the present invention.

[0047] Additionally, as used herein, the term ‘circuitry’ refers to (a) hardware-only circuit implementations (e.g., implementations in analog circuitry and/or digital circuitry); (b) combinations of circuits and computer program product(s) comprising software and/or firmware instructions stored on one or more computer readable memories that work together to cause an apparatus to perform one or more functions described herein; and (c) circuits, such as, for example, a microprocessor(s) or a portion of a microprocessor(s), that require software or firmware for operation even if the software or firmware is not physically present. This definition of ‘circuitry’ applies to all uses of this term herein, including in any claims. As a further example, as used herein, the term ‘circuitry’ also includes an implementation comprising one or more processors and/or portion(s) thereof and accompanying software and/or firmware. As another example, the term ‘circuitry’ as used herein also includes, for example, a baseband integrated circuit or applications processor integrated circuit for a mobile phone or a similar integrated circuit in a server, a cellular network device, other network device, and/or other computing device.

[0048] As defined herein, a “computer-readable storage medium,” which refers to a non-transitory physical storage medium (e.g., volatile or non-volatile memory device), can be differentiated from a “computer-readable transmission medium,” which refers to an electromagnetic signal.

[0049] A method, apparatus and computer program product are provided in accordance with an example embodiment to enable tile-relative addressing in video encoding. The method, apparatus and computer program product may be utilized in conjunction with a variety of video formats including the High Efficiency Video Coding standard (HEVC or H.265/HEVC) or the upcoming Versatile Video Coding standard (VVC, H.266, or H.266/VVC). An example embodiment is described in conjunction with the HEVC, however, the present disclosure is not limited to HEVC, but rather the description is given for one possible basis on top of which an example embodiment of the present disclosure may be partly or fully realized. Particularly, the disclosure may be partly or fully realized with the draft H.266 standard.

[0050] Some aspects of the disclosure relate to container file formats, such as International Standards Organization (ISO) base media file format (ISO/IEC 14496-12, which may be abbreviated as ISO/BMFF), Moving Picture Experts Group (MPEG)-4 file format (ISO/IEC 14496-14, also known as the MP4 format), file formats for NAL (Network