

# **m55321**

## **Conditional signalling of planar buffer disabled flag**

**Kyohei Unno, Kei Kawamura, Yoshitaka Kidani**  
**KDDI Corp. (KDDI Research, Inc.)**

## ■ Problem statement

- **planar\_buffer\_disabled\_flag** is signalled when Angular mode is enabled and Octree is used.
- It is signalled whether Planar mode is enabled or not.

## ■ Proposal

- **planar\_buffer\_disabled\_flag** is signalled only when both Angular mode and Planar mode are enabled.
- Planar mode is inferred as disabled when Octree is not used (i.e. Predictive coding is used).

- `planar_buffer_disabled_flag` is signalled in GPS when Angular mode is enabled and Octree is used.
- It is signalled whether Planar mode is enabled or not.

	Descriptor
<code>geometry_parameter_set() {</code>	
<code>...</code>	
<code>if( geom_tree_type == 0 ) {</code>	
<code>...</code>	
<code>    <b>geometry_planar_enabled_flag</b></code>	<code>u(1)</code>
<code>...</code>	
<code>}</code>	
<code>    <b>geometry_angular_enabled_flag</b></code>	<code>u(1)</code>
<code>if( <b>geometry_angular_enabled_flag</b> ){</code>	
<code>    if( geom_tree_type == 1 ) {</code>	
<code>        <b>geom_angular_azimuth_scale_log2</b></code>	<code>ue(v)</code>
<code>        <b>geom_angular_azimuth_step</b></code>	<code>ue(v)</code>
<code>        <b>geom_angular_radius_scale_log2</b></code>	<code>ue(v)</code>
<code>    }</code>	
<code>...</code>	
<code>    if( <b>geom_tree_type</b> = = 0 )</code>	<code>u(1)</code>
<code>        <b>planar_buffer_disabled_flag</b></code>	<code>u(1)</code>
<code>    }</code>	
<code>...</code>	
<code>}</code>	

- **planar\_buffer\_disabled\_flag** is signalled only when both Angular mode and Planar mode are enabled.
  - **geometry\_planar\_enabled\_flag** is signalled only when Octree is used.
  - When **geometry\_planar\_enabled\_flag** is not signalled, it is inferred to be 0 (next slide).

	Descriptor
geometry_parameter_set() {	
...	
if( geom_tree_type == 0 ) {	
...	
<b>geometry_planar_enabled_flag</b>	u(1)
...	
}	
<b>geometry_angular_enabled_flag</b>	u(1)
if( geometry_angular_enabled_flag ){	
if( geom_tree_type == 1 ) {	
<b>geom_angular_azimuth_scale_log2</b>	ue(v)
<b>geom_angular_azimuth_step</b>	ue(v)
<b>geom_angular_radius_scale_log2</b>	ue(v)
}	
}	
...	
if( <b>geom_tree_type == 0</b> <b>geometry_planar_enabled_flag</b> )	u(1)
<b>planar_buffer_disabled_flag</b>	u(1)
}	
...	
}	

- Planar mode is inferred as disabled when Octree is not used (i.e. Predictive coding is used).
  - Additionally, when `planar_buffer_disabled_flag` is inferred to be 1 (disabled).

#### 7.4.2.5 Geometry parameter set semantics

`geometry_planar_enabled_flag` equal to 1 indicates that the planar coding mode is activated. `geometry_planar_enabled_flag` equal to 0 indicates that the planar coding mode is not activated. When not present, `geometry_planar_enabled_flag` is inferred to be 0.

`planar_buffer_disabled_flag` equal to 1 indicates that tracking the closest nodes using a buffer is not used in process of coding the planar mode flag and the plane position in the planar mode. `planar_buffer_disabled_flag` equal to 0 indicates that tracking the closest nodes using a buffer is used. When not present, `planar_buffer_disabled_flag` is inferred to be 0.

- The following condition can be simplified. Because “`planar_buffer_disabled_flag` is equal to 1” means that “Planar is enabled and buffer is disabled” or “Planar is disabled”.

#### 8.2.4.2 Buffer tracking the closest nodes along an axis

[Ed: this needs further rewording/reworking. covers definition and update process]

The arrays `PlanarPrevPos`, `PlanarPlaneOffset`, `IsPlanarNode` record information about previously decoded geometry tree nodes for use in the determination of `ctxIdx` for the syntax element `plane_position`. When ~~either `geometry_planar_enabled_flag` is equal to 0 or~~ `planar_buffer_disabled_flag` is equal to 1, the arrays are not used by the decoding process.

## ■ Problem statement

- **planar\_buffer\_disabled\_flag** is signalled when Angular mode is enabled and Octree is used.
- It is signalled whether Planar mode is enabled or not.

## ■ Proposal

- **planar\_buffer\_disabled\_flag** is signalled only when both Angular mode and Planar mode are enabled.
- Planar mode is inferred as disabled when Octree is not used (i.e. Predictive coding is used).

■ It is recommended that the proposal is adopted to the next draft.