**Config Register list**

Note:

Bit notation used is 31:0 with 0 being the lsb and all OpenCAPI configuration registers are 32-bit and little endian.

1. Config Read Device and Vendor ID to ensure device looks like OCMB

ICE0ID - Config read addr x00000000 = x06361014

*Other OCMB identifiers that may be optionally read for sanity check:*

*ICE0SYID – Config read addr x0000002C*

*ICE1DID – Config read addr x00010000 = x06361014*

*ICE1SYID – Config read addr x0001002C*

1. Config write to establish which transmit templates and rates are used

ICETCFG – Config write addr x00000224; *specifically bits 5, 1 & 0 for supported Transmit templates x5, x1 & x0 respectively*

ICETRATE – Config write addr x00000268; *specifically bits 23:20, bits 7:4 & bits 3:0 for supported Transmit templates x5, x1, x0 respectively. These values may depend on link speed.*

1. Config write to set short back off timer & OpenCAPI TL Minor Version

ICEVER – Config write addr x00000210; *specifically bits 23:16 for the TL Minor Version and bits 3:0 for the Short back off timer*

1. Config Read to establish which receive templates and receive template rates are supported. Note Gemini only supports receive templates 4, 1 & 0.

ICERCAP – Config read addr x0000021C

ICERRATE – Config read addr x0000024C

1. Config Write to set MMIO BAR0, to identify MMIO space vs. bulk memory

ICE1BARH – Config write addr x00010014

1. Config Write to Enable Memory space to use BAR0 to distinguish MMIO operations from bulk memory

ICE1MBIT – Config write addr x00010004; *specifically bit 1*

1. Config read to determine interrupt capabilities

ICEATAGL – Config read addr x00010518;  *specifically bits 11:0 for the number of consecutive acTags supported*

ICEPIDL – Config read addr x00010510; *specifically bits 4:0 for the PASID length supported*

1. Config write to set up interrupt fields

ICEATAGB – Config write x0001051C; *specifically bits 11:0 for the AFU acTag base*

ICEATAGL – Config write x00010518; *specifically bits 27:16 for the AFU acTag enabled length*

ICEFTAG – Config write x0001030C; *specifically bits 27:16 for the function acTag base and bits 11:0 for the function acTag length*

ICEPIDB – Config write addr x00010514; *specifically bits 19:0 for the PASID base*

ICEPIDL – Config write addr x00010510; *specifically bits 4:0 for the PASID enabled length*

1. Config write to enable metadata

ICEPIDB – Config write x00010514; *specifically bit 30*

1. Config write to enable AFU

ICEAFUEN – Config write x0001050C; *specifically bit 24*