6.2.3 Register 2: Fine Gain Adjust (Gain DAC) Register (Read/Write, Address Pointer = 00010)

Bit #	D15	D14	D13	D12	D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1	D0
Bit Name	GD15	GD14	GD13	GD12	GD11	GD10	GD9	GD8	GD7	GD6	GD5	GD4	GD3	GD2	GD1	GD0
POR Value	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Bit Descriptions:

GD[15:0]: Gain DAC control, 16-bit unsigned data format

Table 6−5. Gain DAC—Data Format

Digital Input (Hex)	Digital Input ZD15.....ZD0 (Binary)	Gain Adjust
0000	0000 0000 0000 0000	0.333333333
0001	0000 0000 0000 0001	0.333343505
32F2	0011 0010 1111 0010	0.466003417
4000	0100 0000 0000 0000	0.500000000
6604	0110 0110 0000 0100	0.598999023
9979	1001 1001 0111 1001	0.733001708
CC86	1100 1100 1000 0110	0.865997314
FFFF	1111 1111 1111 1111	1.000000000

Gain DAC Equation:

1 LSB = (1.000000000 – 0.333333333) / 65536 = (2/3)/65536
Decimal # Counts = (Desired Gain – 1/3)/(3/2)(65.536)
$0.3333333 \leq$ Gain DAC ≤ 0.9999898
$0 \leq$ Gain DAC Counts ≤ 65535

Gain DAC Example:

Want: Fine Gain = 0.68
Decimal # Counts = (0.68 − 1/3)(3/2)(65536) = 34078.72
Use 34079 counts $\rightarrow$ 851Fh $\rightarrow$ 1000 0101 0001 1111