37 --------------------------------

 U-Boot 2016.01-rc1 (Sep 01 2016 - 16:00:13 -0700) VERSION=1.3.0

U-Boot code: 1E000000 -> 1E088CC4 BSS: -> 1E0E7FD8

IRQ Stack: 0badc0de

FIQ Stack: 0badc0de

DRAM: et0: gmac\_serdes\_init read sdctl(0x43)

et0: gmac\_serdes\_init() serdes\_status0: 0x0; serdes\_status1: 0xf00

et0: gmac\_serdes\_init write sdctl(0xf41400)

et0: gmac\_serdes\_init read sdctl(0xf41400)

et0: gmac\_serdes\_init write sdctl(0xf41403)

et0: gmac\_serdes\_init read sdctl(0xf41403)

et0: gmac\_serdes\_init write sdctl(0xf41400)

et0: gmac\_serdes\_init read sdctl(0xf41400)

et0: gmac\_serdes\_init write sdctl(0xf41404)

et0: gmac\_serdes\_init read sdctl(0xf41404)

et0: gmac\_serdes\_init write sdctl(0xf4140c)

et0: gmac\_serdes\_init read sdctl(0xf4140c)

et0: gmac\_serdes\_init write sdctl(0xf4141c)

et0: gmac\_serdes\_init read sdctl(0xf4141c)

et0: gmac\_serdes\_init read sdstat0(0x100ff00); sdstat1(0xf00)

BENCH SCREENING TEST1

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IPROC\_XGPLL\_CTRL\_3: 0x15400000

IPROC\_XGPLL\_STATUS: 0x8000020e

DCO code: 32

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AVS: 0x0

DEV ID = 0xdc14

SKU ID = 0xb547

DDR type: DDR3

MEMC 0 DDR speed = 750MHz

PHY revision version: 0x00044006

ddr\_init2: Calling soc\_ddr40\_set\_shmoo\_dram\_config

ddr\_init2: Calling soc\_ddr40\_phy\_calibrate

C01. Check Power Up Reset\_Bar

C02. Config and Release PLL from reset

C03. Poll PLL Lock

C04. Calibrate ZQ (ddr40\_phy\_calib\_zq)

C05. DDR PHY VTT On (Virtual VTT setup) DISABLE all Virtual VTT

C06. DDR40\_PHY\_DDR3\_MISC

C07. VDL Calibration

C07.1

C07.2

C07.4

C07.4.1

C07.4.4

VDL calibration result: 0x30000003 (cal\_steps = 0)

C07.4.5

C07.4.6

C07.5

C08. DDR40\_PHY\_DDR3\_MISC : Start DDR40\_PHY\_RDLY\_ODT....

C09. Start ddr40\_phy\_autoidle\_on (MEM\_SYS\_PARAM\_PHY\_AUTO\_IDLE) ....

C10. Wait for Phy Ready...Done.

DDR phy calibration passed

Programming controller register

ddr\_init2: MemC initialization complete

Validate Shmoo parameters stored in flash ..... OK

Restoring Shmoo parameters from flash ..... done

Running simple memory test ..... failed!

ddr\_init2: Calling soc\_ddr40\_shmoo\_ctl

DDR\_CTLR\_T1

E01. Reset Vref before Shmoo

D04. Calibrate ZQ (ddr40\_phy\_calib\_zq) before Shmoo

D07. VDL Calibration before Shmoo

VDL calibration result: 0x30000003 (cal\_steps = 0)

\_soc\_ddr\_shmoo\_prepare\_for\_shmoo: Enter

(WL=0) data = 0x642001

(WL=0) PLL\_STATUS : LOCK\_LOST = 0x0

(WL=0) PLL\_STATUS : LOCK = 0x1

(WL=0) data = 0x1c13000

(WL=0) ZQ\_PVT\_COMP\_CTL : PD\_COMP = 0x2

(WL=0) ZQ\_PVT\_COMP\_CTL : ND\_COMP = 0x3

(WL=0) data = 0x7

(WL=0) PHY\_WORD\_LANE\_READ\_CONTROL : DQ\_ODT\_ENABLE = 0x1

(WL=0) PHY\_WORD\_LANE\_READ\_CONTROL : DQ\_ODT\_LE\_ADJ = 0x1

(WL=0) PHY\_WORD\_LANE\_READ\_CONTROL : DQ\_ODT\_TE\_ADJ = 0x1

(WL=0) data = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_FAST = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_ONCE = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_ALWAYS = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_TEST = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_CLOCKS = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_BYTE = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_PHYBIST = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_FTM = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_AUTO = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_STEPS = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_DQS\_PAIR = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_DQS\_CLOCKS = 0x0

(WL=0) VDL\_CALIBRATE : CALIB\_BIT\_OFFSET = 0x0

(WL=0) VDL\_CALIBRATE : RD\_EN\_CAL = 0x0

(WL=0) VDL\_CALIBRATE : BIT\_CAL = 0x0

(WL=0) VDL\_CALIBRATE : SET\_MR\_MPR = 0x0

(WL=0) VDL\_CALIBRATE : DQ0\_ONLY = 0x0

(WL=0) VDL\_CALIBRATE : SET\_WR\_DQ = 0x0

(WL=0) VDL\_CALIBRATE : BIT\_REFRESH = 0x0

(WL=0) VDL\_CALIBRATE : RD\_DLY\_CAL = 0x0

(WL=0) VDL\_CALIBRATE : EXIT\_IN\_SR = 0x0

(WL=0) VDL\_CALIBRATE : SKIP\_RST = 0x0

(WL=0) VDL\_CALIBRATE : AUTO\_INIT = 0x0

(WL=0) VDL\_CALIBRATE : USE\_STRAPS = 0x0

(WL=0) data = 0x30000003

(WL=0) VDL\_CALIB\_STATUS : CALIB\_LOCK = 0x1

(WL=0) VDL\_CALIB\_STATUS : CALIB\_IDLE = 0x1

(WL=0) VDL\_CALIB\_STATUS : CALIB\_BYTE\_SEL = 0x0

(WL=0) VDL\_CALIB\_STATUS : CALIB\_BIT\_OFFSET set if byte mode = 0x0

(WL=0) NOTE: For single step calibration total result, please see below

(WL=0) data = 0x19f198f

(WL=0) VDL\_DQ\_CALIB\_STATUS : DQ\_CALIB\_LOCK = 0x1

(WL=0) VDL\_DQ\_CALIB\_STATUS : DQS\_CALIB\_LOCK = 0x1

(WL=0) VDL\_DQ\_CALIB\_STATUS : DQS\_CALIB\_MODE DQS(1=pair) = 0x1

(WL=0) VDL\_DQ\_CALIB\_STATUS : DQS\_CALIB\_CLOCKS DQS(0=half bit) = 0x1

(WL=0) VDL\_DQ\_CALIB\_STATUS : DQ\_CALIB\_TOTAL DQ (steps) = 0x19

(WL=0) VDL\_DQ\_CALIB\_STATUS : DQS\_CALIB\_TOTAL DQS (steps) = 0x19

(WL=0) data = 0x1951

(WL=0) VDL\_WR\_CHAN\_CALIB\_STATUS : WR\_CHAN\_CALIB\_LOCK = 0x1

(WL=0) VDL\_WR\_CHAN\_CALIB\_STATUS : WR\_CHAN\_CALIB\_BYTE\_SEL (1=byte) = 0x0

(WL=0) VDL\_WR\_CHAN\_CALIB\_STATUS : WR\_CHAN\_CALIB\_CLOCKS (0=1/2bit) = 0x0

(WL=0) VDL\_WR\_CHAN\_CALIB\_STATUS : WR\_CHAN\_CALIB\_TOTAL (steps) = 0x19

(WL=0) VDL\_WR\_CHAN\_CALIB\_STATUS : WR\_CHAN\_CALIB\_BIT\_OFFSET (in byte mode, setting for bit vdl)= 0x0

(WL=0) data = 0x3cb5

(WL=0) VDL\_RD\_EN\_CALIB\_STATUS : RD\_EN\_CALIB\_LOCK = 0x1

(WL=0) VDL\_RD\_EN\_CALIB\_STATUS : RD\_EN\_CALIB\_BYTE\_SEL (1=byte) = 0x0

(WL=0) VDL\_RD\_EN\_CALIB\_STATUS : RD\_EN\_CALIB\_CLOCKS (0=1/2bit) = 0x1

(WL=0) VDL\_RD\_EN\_CALIB\_STATUS : RD\_EN\_CALIB\_TOTAL (steps) = 0x3c

(WL=0) VDL\_RD\_EN\_CALIB\_STATUS : RD\_EN\_CALIB\_BIT\_OFFSET (in byte mode, setting for bit vdl)= 0x0

(WL=0) VDL\_CALIB\_STATUS : NOT CALIB\_LOCK

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--- Single STEP Calibration ---

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(WL=0) VDL\_CALIB\_STATUS : CALIB\_LOCK = 1

(WL=0) VDL\_CALIB\_STATUS : CALIB\_IDLE = 1

(WL=0) VDL\_CALIB\_STATUS : 360'CALIB\_TOTAL = 140 (steps)

(WL=0) VDL\_CALIB\_STATUS : 90' CALIB TOTAL = 35 (steps)

(WL=0) VDL\_CALIB\_STATUS : 360' steps time = 1333 (ps)

(WL=0) VDL\_CALIB\_STATUS : 90' step time = 38.85 (ps)

(WL=0) VDL\_CALIB\_STATUS : Single step time = 9.521 (ps)

sizeof(soc\_ddr\_shmoo\_param\_t) = 29c

sal\_memset

sizeof(vref\_word\_shmoo) = 12b00

BEGIN SHMOO

BEFORE SHMOO: Type = 0 CI = 0 WL = 0

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000820 VREF DAC CONTROL

Address = 0x0360 Data = 0x00000004 READ DATA DLY

Address = 0x0200 Data = 0x0001001F VDL OVRIDE BYTE RD EN

Address = 0x0274 Data = 0x0001001F VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0314 Data = 0x0001001F VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0234 Data = 0x00010009 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x02D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0208 Data = 0x00010020 VDL OVRIDE BYTE0 R DQS

Address = 0x02A8 Data = 0x0001001B VDL OVRIDE BYTE1 R DQS

Address = 0x0204 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0210 Data = 0x0001001C VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x02A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x02B0 Data = 0x0001001B VDL OVRIDE BYTE1 BIT WR DQ

calib\_steps: 611

AFTER SHMOO: Type = 0 CI = 0 WL = 0

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000820 VREF DAC CONTROL

Address = 0x0360 Data = 0x00000001 READ DATA DLY

Address = 0x0200 Data = 0x0001001E VDL OVRIDE BYTE RD EN

Address = 0x0274 Data = 0x0001001E VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0314 Data = 0x0001001E VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0234 Data = 0x00010019 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x02D4 Data = 0x00010019 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0208 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x02A8 Data = 0x00010032 VDL OVRIDE BYTE1 R DQS

Address = 0x0204 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0210 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x02A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x02B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

BEFORE SHMOO: Type = 0 CI = 0 WL = 1

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000820 VREF DAC CONTROL

Address = 0x0560 Data = 0x00000004 READ DATA DLY

Address = 0x0400 Data = 0x0001002A VDL OVRIDE BYTE RD EN

Address = 0x0474 Data = 0x0001002A VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0514 Data = 0x0001002A VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0434 Data = 0x00010010 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x04D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0408 Data = 0x00010022 VDL OVRIDE BYTE0 R DQS

Address = 0x04A8 Data = 0x0001001A VDL OVRIDE BYTE1 R DQS

Address = 0x0404 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0410 Data = 0x0001001F VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x04A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x04B0 Data = 0x0001001A VDL OVRIDE BYTE1 BIT WR DQ

calib\_steps: 611

AFTER SHMOO: Type = 0 CI = 0 WL = 1

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000820 VREF DAC CONTROL

Address = 0x0560 Data = 0x00000001 READ DATA DLY

Address = 0x0400 Data = 0x0001001E VDL OVRIDE BYTE RD EN

Address = 0x0474 Data = 0x0001001E VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0514 Data = 0x0001001E VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0434 Data = 0x00010019 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x04D4 Data = 0x00010019 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0408 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x04A8 Data = 0x00010032 VDL OVRIDE BYTE1 R DQS

Address = 0x0404 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0410 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x04A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x04B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

BEFORE SHMOO: Type = 0 CI = 0 WL = 2

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000820 VREF DAC CONTROL

Address = 0x0760 Data = 0x00000004 READ DATA DLY

Address = 0x0600 Data = 0x00010030 VDL OVRIDE BYTE RD EN

Address = 0x0674 Data = 0x00010030 VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0634 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x0608 Data = 0x00010020 VDL OVRIDE BYTE0 R DQS

Address = 0x0604 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0610 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

calib\_steps: 611

AFTER SHMOO: Type = 0 CI = 0 WL = 2

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000820 VREF DAC CONTROL

Address = 0x0760 Data = 0x00000001 READ DATA DLY

Address = 0x0600 Data = 0x0001001E VDL OVRIDE BYTE RD EN

Address = 0x0674 Data = 0x0001001E VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0634 Data = 0x00010019 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x0608 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x0604 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0610 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

BEFORE SHMOO: Type = 1 CI = 0 WL = 0

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000820 VREF DAC CONTROL

Address = 0x0360 Data = 0x00000001 READ DATA DLY

Address = 0x0200 Data = 0x0001001E VDL OVRIDE BYTE RD EN

Address = 0x0274 Data = 0x0001001E VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0314 Data = 0x0001001E VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0234 Data = 0x00010019 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x02D4 Data = 0x00010019 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0208 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x02A8 Data = 0x00010032 VDL OVRIDE BYTE1 R DQS

Address = 0x0204 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0210 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x02A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x02B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

RD\_DATA\_DLY Iter: 1 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 1 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 2 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 2 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 3 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 3 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 4 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 4 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 5 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 5 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 6 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 6 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 7 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 7 Count: 0 Sum: 0

Did not find valid RD\_DATA\_DELAY. Forcing RD\_DATA\_DELAY = 4

Switching to RD\_DATA\_DELAY Step : 4 (WL = 0)

Switching to RD\_DQ Step (Byte 0) : 0

Switching to RD\_DQ Step (Byte 1) : 0

AFTER SHMOO: Type = 1 CI = 0 WL = 0

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000820 VREF DAC CONTROL

Address = 0x0360 Data = 0x00000004 READ DATA DLY

Address = 0x0200 Data = 0x00010000 VDL OVRIDE BYTE RD EN

Address = 0x0274 Data = 0x00010000 VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0314 Data = 0x00010000 VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0234 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x02D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0208 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x02A8 Data = 0x00010032 VDL OVRIDE BYTE1 R DQS

Address = 0x0204 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0210 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x02A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x02B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

\*\*\*\* RD\_EN Shmoo (WL=0)

 BYTE = 0

 0000000000111111111122222222223333333333444444444455555555556666

 0123456789012345678901234567890123456789012345678901234567890123

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 61 ----------------------------------------------------------------

 62 ----------------------------------------------------------------

 63 ----------------------------------------------------------------

 BYTE = 1

 0000000000111111111122222222223333333333444444444455555555556666

 0123456789012345678901234567890123456789012345678901234567890123

 00 ----------------------------------------------------------------

 01 ----------------------------------------------------------------

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 63 ----------------------------------------------------------------

BEFORE SHMOO: Type = 2 CI = 0 WL = 0

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000820 VREF DAC CONTROL

Address = 0x0360 Data = 0x00000004 READ DATA DLY

Address = 0x0200 Data = 0x00010000 VDL OVRIDE BYTE RD EN

Address = 0x0274 Data = 0x00010000 VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0314 Data = 0x00010000 VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0234 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x02D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0208 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x02A8 Data = 0x00010032 VDL OVRIDE BYTE1 R DQS

Address = 0x0204 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0210 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x02A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x02B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

Initial RD\_DQS Setting (Byte 0): 50

Initial RD\_EN Setting (Byte 0): 0

New RD\_DQS Setting (Byte 0): 0

New RD\_EN Setting (Byte 0): 0

Initial RD\_DQS Setting (Byte 1): 50

Initial RD\_EN Setting (Byte 1): 0

New RD\_DQS Setting (Byte 1): 0

New RD\_EN Setting (Byte 1): 0

Switching to RD\_DQ Step (Byte 0) : 0

Switching to RD\_DQ Step (Byte 1) : 0

Switching to Vref Step : 16

Switching to RD\_DQS Step (Byte 0): -2

Switching to RD\_EN Step (Byte 0): -1

Switching to RD\_DQS Step (Byte 1): -2

Switching to RD\_EN Step (Byte 1): -1

AFTER SHMOO: Type = 2 CI = 0 WL = 0

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0360 Data = 0x00000004 READ DATA DLY

Address = 0x0200 Data = 0x0001003F VDL OVRIDE BYTE RD EN

Address = 0x0274 Data = 0x0001003F VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0314 Data = 0x0001003F VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0234 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x02D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0208 Data = 0x0001003E VDL OVRIDE BYTE0 R DQS

Address = 0x02A8 Data = 0x0001003E VDL OVRIDE BYTE1 R DQS

Address = 0x0204 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0210 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x02A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x02B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

\*\*\*\* RD\_DQS Shmoo (WL=0)

 BYTE = 0

 0000000000111111111122222222223333333333444444444455555555556666

 0123456789012345678901234567890123456789012345678901234567890123

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 BYTE = 1

 0000000000111111111122222222223333333333444444444455555555556666

 0123456789012345678901234567890123456789012345678901234567890123

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BEFORE SHMOO: Type = 3 CI = 0 WL = 0

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0360 Data = 0x00000004 READ DATA DLY

Address = 0x0200 Data = 0x0001003F VDL OVRIDE BYTE RD EN

Address = 0x0274 Data = 0x0001003F VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0314 Data = 0x0001003F VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0234 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x02D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0208 Data = 0x0001003E VDL OVRIDE BYTE0 R DQS

Address = 0x02A8 Data = 0x0001003E VDL OVRIDE BYTE1 R DQS

Address = 0x0204 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0210 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x02A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x02B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

AFTER SHMOO: Type = 3 CI = 0 WL = 0

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0360 Data = 0x00000004 READ DATA DLY

Address = 0x0200 Data = 0x0001003F VDL OVRIDE BYTE RD EN

Address = 0x0274 Data = 0x0001003F VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0314 Data = 0x0001003F VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0234 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x02D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0208 Data = 0x0001003E VDL OVRIDE BYTE0 R DQS

Address = 0x02A8 Data = 0x0001003E VDL OVRIDE BYTE1 R DQS

Address = 0x0204 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0210 Data = 0x0001003E VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x02A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x02B0 Data = 0x0001003E VDL OVRIDE BYTE1 BIT WR DQ

\*\*\*\* WR\_DQ Shmoo (WL=0)

 0000000000111111111122222222223333333333444444444455555555556666

 0123456789012345678901234567890123456789012345678901234567890123

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BEFORE SHMOO: Type = 1 CI = 0 WL = 1

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0560 Data = 0x00000001 READ DATA DLY

Address = 0x0400 Data = 0x0001001E VDL OVRIDE BYTE RD EN

Address = 0x0474 Data = 0x0001001E VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0514 Data = 0x0001001E VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0434 Data = 0x00010019 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x04D4 Data = 0x00010019 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0408 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x04A8 Data = 0x00010032 VDL OVRIDE BYTE1 R DQS

Address = 0x0404 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0410 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x04A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x04B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

RD\_DATA\_DLY Iter: 1 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 1 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 2 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 2 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 3 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 3 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 4 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 4 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 5 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 5 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 6 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 6 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 7 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 7 Count: 0 Sum: 0

Did not find valid RD\_DATA\_DELAY. Forcing RD\_DATA\_DELAY = 4

Copying WL0 RD\_DATA\_DELAY Step : 4 (WL = 1)

Switching to RD\_DQ Step (Byte 0) : 0

Switching to RD\_DQ Step (Byte 1) : 0

AFTER SHMOO: Type = 1 CI = 0 WL = 1

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0560 Data = 0x00000004 READ DATA DLY

Address = 0x0400 Data = 0x00010000 VDL OVRIDE BYTE RD EN

Address = 0x0474 Data = 0x00010000 VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0514 Data = 0x00010000 VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0434 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x04D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0408 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x04A8 Data = 0x00010032 VDL OVRIDE BYTE1 R DQS

Address = 0x0404 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0410 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x04A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x04B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

\*\*\*\* RD\_EN Shmoo (WL=1)

 BYTE = 0

 0000000000111111111122222222223333333333444444444455555555556666

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 BYTE = 1

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BEFORE SHMOO: Type = 2 CI = 0 WL = 1

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0560 Data = 0x00000004 READ DATA DLY

Address = 0x0400 Data = 0x00010000 VDL OVRIDE BYTE RD EN

Address = 0x0474 Data = 0x00010000 VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0514 Data = 0x00010000 VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0434 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x04D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0408 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x04A8 Data = 0x00010032 VDL OVRIDE BYTE1 R DQS

Address = 0x0404 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0410 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x04A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x04B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

Initial RD\_DQS Setting (Byte 0): 50

Initial RD\_EN Setting (Byte 0): 0

New RD\_DQS Setting (Byte 0): 0

New RD\_EN Setting (Byte 0): 0

Initial RD\_DQS Setting (Byte 1): 50

Initial RD\_EN Setting (Byte 1): 0

New RD\_DQS Setting (Byte 1): 0

New RD\_EN Setting (Byte 1): 0

Switching to RD\_DQ Step (Byte 0) : 0

Switching to RD\_DQ Step (Byte 1) : 0

Switching to Vref Step : 16

Switching to RD\_DQS Step (Byte 0): -2

Switching to RD\_EN Step (Byte 0): -1

Switching to RD\_DQS Step (Byte 1): -2

Switching to RD\_EN Step (Byte 1): -1

AFTER SHMOO: Type = 2 CI = 0 WL = 1

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0560 Data = 0x00000004 READ DATA DLY

Address = 0x0400 Data = 0x0001003F VDL OVRIDE BYTE RD EN

Address = 0x0474 Data = 0x0001003F VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0514 Data = 0x0001003F VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0434 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x04D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0408 Data = 0x0001003E VDL OVRIDE BYTE0 R DQS

Address = 0x04A8 Data = 0x0001003E VDL OVRIDE BYTE1 R DQS

Address = 0x0404 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0410 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x04A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x04B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

\*\*\*\* RD\_DQS Shmoo (WL=1)

 BYTE = 0

 0000000000111111111122222222223333333333444444444455555555556666

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 BYTE = 1

 0000000000111111111122222222223333333333444444444455555555556666

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BEFORE SHMOO: Type = 3 CI = 0 WL = 1

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0560 Data = 0x00000004 READ DATA DLY

Address = 0x0400 Data = 0x0001003F VDL OVRIDE BYTE RD EN

Address = 0x0474 Data = 0x0001003F VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0514 Data = 0x0001003F VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0434 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x04D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0408 Data = 0x0001003E VDL OVRIDE BYTE0 R DQS

Address = 0x04A8 Data = 0x0001003E VDL OVRIDE BYTE1 R DQS

Address = 0x0404 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0410 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x04A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x04B0 Data = 0x00010019 VDL OVRIDE BYTE1 BIT WR DQ

AFTER SHMOO: Type = 3 CI = 0 WL = 1

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0560 Data = 0x00000004 READ DATA DLY

Address = 0x0400 Data = 0x0001003F VDL OVRIDE BYTE RD EN

Address = 0x0474 Data = 0x0001003F VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0514 Data = 0x0001003F VDL OVRIDE BYTE1 BIT RD EN

Address = 0x0434 Data = 0x00010000 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x04D4 Data = 0x00010000 VDL OVRIDE BYTE1 BIT0 R DQ

Address = 0x0408 Data = 0x0001003E VDL OVRIDE BYTE0 R DQS

Address = 0x04A8 Data = 0x0001003E VDL OVRIDE BYTE1 R DQS

Address = 0x0404 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0410 Data = 0x0001003E VDL OVRIDE BYTE0 BIT WR DQ

Address = 0x04A4 Data = 0x00010000 VDL OVRIDE BYTE1 WR DQ

Address = 0x04B0 Data = 0x0001003E VDL OVRIDE BYTE1 BIT WR DQ

\*\*\*\* WR\_DQ Shmoo (WL=1)

 0000000000111111111122222222223333333333444444444455555555556666

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Enabling DDR ECC reporting

BEFORE SHMOO: Type = 1 CI = 0 WL = 2

Address = 0x004C Data = 0x30000233 VDL CALIB STATUS

Address = 0x0058 Data = 0x00003CB4 VDL RD EN CALIB STATUS

Address = 0x0050 Data = 0x019F198C VDL DQ/DQS CALIB STATUS

Address = 0x0054 Data = 0x00001950 VDL WR DQ CALIB STATUS

Address = 0x0030 Data = 0x00000000 VDL OVRIDE BYTE CTL

Address = 0x0034 Data = 0x00010028 VDL OVRIDE BIT CTL

Address = 0x003C Data = 0x01C13000 ZQ PVT COMP CTL

Address = 0x006C Data = 0x00000410 VREF DAC CONTROL

Address = 0x0760 Data = 0x00000001 READ DATA DLY

Address = 0x0600 Data = 0x0001001E VDL OVRIDE BYTE RD EN

Address = 0x0674 Data = 0x0001001E VDL OVRIDE BYTE0 BIT RD EN

Address = 0x0634 Data = 0x00010019 VDL OVRIDE BYTE0 BIT0 R DQ

Address = 0x0608 Data = 0x00010032 VDL OVRIDE BYTE0 R DQS

Address = 0x0604 Data = 0x00010000 VDL OVRIDE BYTE0 WR DQ

Address = 0x0610 Data = 0x00010019 VDL OVRIDE BYTE0 BIT WR DQ

RD\_DATA\_DLY Iter: 1 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 1 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 2 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 2 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 3 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 3 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 4 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 4 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 5 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 5 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 6 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 6 Count: 0 Sum: 0

RD\_DATA\_DLY Iter: 7 ----------------------------------------------------------------

RD\_DATA\_DLY Iter: 7 Count: 0 Sum: 0

Did not find valid RD\_DATA\_DELAY. Forcing RD\_DATA\_DELAY = 4

Copying WL1 RD\_DATA\_DELAY Step : 4 (WL = 2)