8.6.1.5 Register R6

8.6.1.5.1 RD_DIAGNOSTICS[19:0] — Readback Diagnostics

This word is contains several pieces of information that may be read back for debug and diagnostic purposes.

RD_DIAGNOISTICS[19:8]								
19	18	17	16	15	[14:11]	10	9	8
VCO_SELECT		FIN_DETECT	OSCIN_DETECT	VCO_DETECT	Reserved	CAL_ RUNNING	VCO_RAIL_ HIGH	VCO_RAIL_ LOW

RD_DIAGNOISTICS[7:0]							
7	6	5	4	3	2	1	0
Reserved	VCO_TUNE_ HIGH	VCO_TUNE_ VALID	FLOUT_ON	DLD	LD_PIN STATE	CE_PIN STATE	BUFEN_PIN STATE

WORD NAME	MEANING if VALUE is ONE
VCO_ SELECT	This is the VCO that the device chose to use. 0 = VCO 1, 1 = VCO 2, 2 = VCO 3, 3 = VCO 4
FIN_DETECT	Indicates transitions at the Fin pin have been detected. This could either be the VCO signal or self-oscillation of the Fin pin in the even that no signal is present. This bit needs to be manually reset by programing register R5 with R5[30] = 1, and then again with bit R5[30]=0
OSCIN_DETECT	Indicates transitions at the OSCin pin have been detected. This could either be a signal at the OSCin pin or self-oscillation at the OSCin pin in the event no signal is present . This bit needs to be manually reset by programming R5 with R5[29] = 1 and then again with R5[29] = 0.
CAL_RUNNING	Indicates that some calibration in the part is currently running.
VCO_RAIL_HIGH	Indicates that the VCO frequency calibration failed because the VCO would need to be a higher frequency than it could achieve.
VCO_RAIL_LOW	Indicates that the VCO frequency calibration failed because the VCO would need to be a lower frequency than it could achieve.
VCO_TUNE_HIGH	Indicates that the VCO tuning voltage is higher than 2.4 volts and outside the allowable range.
VCO_TUNE_VALID	Indicates that the VCO tuning voltage is inside then allowable range.
FLOUT_ON	Indicates that the FLout pin is low.
DLD	Indicates that the digital lock detect phase measurement indicates a locked state. This does not include any consideration of the VCO tuning voltage.
LD_PINSTATE	This is the state of the LD Pin.
CE_PINSTATE	This is the state of the CE pin.
BUFEN_PINSTATE	This is the state of the BUFEN pin.

8.6.1.5.2 RDADDR[3:0] — Readback Address

When the ID bit is set to zero, this word designates which register is read back from. When the ID bit is set to one, the unique part ID identifying the device as the LMX2581 is read back.

ID	RDADDR	INFORMATION READ BACK
1	Don't Care	Part ID
0	0	Register R0
	1	Register R1
	...	...
	15 (default)	Register R15

8.6.1.5.3 uWIRE_LOCK - Microwire lock

uWIRE_LOCK	MICROWIRE
0	Normal Operation
1	Locked out – All Programming except to the uWIRE_LOCK bit is ignored