13 REGISTER MAP

This section lists the register map for the ICM-42688-P, for user banks 0, 1, 2, 3, 4.

13.1 USER BANK 0 REGISTER MAP

Addr (Hex)	Addr (Dec.)	Register Name	Serial I/F	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
11	17	DEVICE_CONFIG	R/W	-			SPI_MODE	-			SOFT_RESET_CONFIG
13	19	DRIVE_CONFIG	R/W	-		I2C_SLEW_RATE			SPI_SLEW_RATE		
14	20	INT_CONFIG		-		INT2_MODE	INT2_DRIVE_CIRCUIT	INT2_POLARITY	INT1_MODE	INT1_DRIVE_CIRCUIT	INT1_POLARITY
16	22	FIFO_CONFIG	R/W	FIFO_MODE		-					
1D	29	TEMP_DATA1	SYNCR	TEMP_DATA[15:8]							
1E	30	TEMP_DATA0	SYNCR	TEMP_DATA[7:0]							
1F	31	ACCEL_DATA_X1	SYNCR	ACCEL_DATA_X[15:8]							
20	32	ACCEL_DATA_X0	SYNCR	ACCEL_DATA_X[7:0]							
21	33	ACCEL_DATA_Y1	SYNCR	ACCEL_DATA_Y[15:8]							
22	34	ACCEL_DATA_Y0	SYNCR	ACCEL_DATA_Y[7:0]							
23	35	ACCEL_DATA_Z1	SYNCR	ACCEL_DATA_Z[15:8]							
24	36	ACCEL_DATA_Z0	SYNCR	ACCEL_DATA_Z[7:0]							
25	37	GYRO_DATA_X1	SYNCR	GYRO _DATA_X[15:8]							
26	38	GYRO _DATA_X0	SYNCR	GYRO _DATA_X[7:0]							
27	39	GYRO _DATA_Y1	SYNCR	GYRO _DATA_Y[15:8]							
28	40	GYRO _DATA_Y0	SYNCR	GYRO _DATA_Y[7:0]							
29	41	GYRO _DATA_Z1	SYNCR	GYRO_DATA_Z[15:8]							
2A	42	GYRO _DATA_Z0	SYNCR	GYRO_DATA_Z[7:0]							
2B	43	TMST_FSYNCH	SYNCR	TMST_FSYNC_DATA[15:8]							
2C	44	TMST_FSYNCL	SYNCR	TMST_FSYNC_DATA[7:0]							
2D	45	INT_STATUS	R/C	-	UI_FSYNC_INT	PLL_RDY_INT	RESET_DONE_INT	DATA_RDY_INT	FIFO_THS_INT	FIFO_FULL_INT	AGC_RDY_INT
2E	46	FIFO_COUNTH	R	FIFO_COUNT[15:8]							
2F	47	FIFO_COUNTL	R	FIFO_COUNT[7:0]							
30	48	FIFO_DATA	R	FIFO_DATA							
31	49	APEX_DATA0	SYNCR	STEP_CNT[7:0]							
32	50	APEX_DATA1	SYNCR	STEP_CNT[15:8]							
33	51	APEX_DATA2	R	STEP_CADENCE							
34	52	APEX_DATA3	R	-					DMP_IDLE	ACTIVITY_CLASS	
35	53	APEX_DATA4	R	-			TAP_NUM		TAP_AXIS		TAP_DIR
36	54	APEX_DATA5	R	-		DOUBLE_TAP_TIMING					
37	55	INT_STATUS2	R/C	-				SMD_INT	WOM_Z_INT	WOM_Y_INT	WOM_X_INT
38	56	INT_STATUS3	R/C	-		STEP_DET_INT	STEP_CNT_OVF_INT	TILT_DET_INT	WAKE_INT	SLEEP_INT	TAP_DET_INT
4B	75	SIGNAL_PATH_RESET	W/C	-	DMP_INIT_EN	DMP_MEM_RESET_EN	-	ABORT_AND_RESET	TMST_STROBE	FIFO_FLUSH	-
4C	76	INTF_CONFIG0	R/W	FIFO_HOLD_LAST_DATA_EN	FIFO_COUNT_REC	FIFO_COUNT_ENDIAN	SENSOR_DATA_ENDIAN	-		UI_SIFS_CFG	
4D	77	INTF_CONFIG1	R/W	-				ACCEL_LP_CLK_SEL	RTC_MODE	CLKSEL	
4E	78	PWR_MGMT0	R/W	-		TEMP_DIS	IDLE	GYRO_MODE		ACCEL_MODE	
4F	79	GYRO_CONFIG0	R/W	GYRO_FS_SEL			-	GYRO_ODR			
50	80	ACCEL_CONFIG0	R/W	ACCEL_FS_SEL			-	ACCEL_ODR			
51	81	GYRO_CONFIG1	R/W	TEMP_FILT_BW			-	GYRO_UI_FILT_ORD		GYRO_DEC2_M2_ORD	
52	82	GYRO_ACCEL_CONFIG0	R/W	ACCEL_UI_FILT_BW				GYRO_UI_FILT_BW			
53	83	ACCEL_CONFIG1	R/W	-			ACCEL_UI_FILT_ORD		ACCEL_DEC2_M2_ORD		-

Addr (Hex)	Addr (Dec.)	Register Name	Serial I/F	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
54	84	TMST_CONFIG	R/W	-			TMST_TO_REGS_EN	TMST_RES	TMST_DELTA_EN	TMST_FSYNC_EN	TMST_EN
56	86	APEX_CONFIG0	R/W	DMP_POWER_SAVE	TAP_ENABLE	PED_ENABLE	TILT_ENABLE	R2W_EN	-	DMP_ODR	
57	87	SMD_CONFIG	R/W	-				WOM_INT_MODE	WOM_MODE	SMD_MODE	
5F	95	FIFO_CONFIG1	R/W	-	FIFO_RESUME_PARTIAL_RD	FIFO_WM_GT_TH	FIFO_HIRES_EN	FIFO_TMST_FSYNC_EN	FIFO_TEMP_EN	FIFO_GYRO_EN	FIFO_ACCEL_EN
60	96	FIFO_CONFIG2	R/W	FIFO_WM[7:0]							
61	97	FIFO_CONFIG3	R/W	-				FIFO_WM[11:8]			
62	98	FSYNC_CONFIG	R/W	-	FSYNC_UI_SEL			-		FSYNC_UI_FLAG_CLEAR_SEL	FSYNC_POLARITY
63	99	INT_CONFIG0	R/W	-		UI_DRDY_INT_CLEAR		FIFO_THS_INT_CLEAR		FIFO_FULL_INT_CLEAR	
64	100	INT_CONFIG1	R/W	-	INT_TPULSE_DURATION	INT_TDEASSERT_DISABLE	INT_ASYNC_RESET	-			
65	101	INT_SOURCE0	R/W	-	UI_FSYNC_INT1_EN	PLL_RDY_INT1_EN	RESET_DONE_INT1_EN	UI_DRDY_INT1_EN	FIFO_THS_INT1_EN	FIFO_FULL_INT1_EN	UI_AGC_RDY_INT1_EN
66	102	INT_SOURCE1	R/W	-	I3C_PROTOCOL_ERROR_INT1_EN	-		SMD_INT1_EN	WOM_Z_INT1_EN	WOM_Y_INT1_EN	WOM_X_INT1_EN
68	104	INT_SOURCE3	R/W	-	UI_FSYNC_INT2_EN	PLL_RDY_INT2_EN	RESET_DONE_INT2_EN	UI_DRDY_INT2_EN	FIFO_THS_INT2_EN	FIFO_FULL_INT2_EN	UI_AGC_RDY_INT2_EN
69	105	INT_SOURCE4	R/W	-	I3C_PROTOCOL_ERROR_INT2_EN	-		SMD_INT2_EN	WOM_Z_INT2_EN	WOM_Y_INT2_EN	WOM_X_INT2_EN
6C	108	FIFO_LOST_PKT0	R	FIFO_LOST_PKT_CNT[15:8]							
6D	109	FIFO_LOST_PKT1	R	FIFO_LOST_PKT_CNT[7:0]							
70	112	SELF_TEST_CONFIG	R/W		ACCEL_ST_POWER	EN_AZ_ST	EN_AY_ST	EN_AX_ST	EN_GZ_ST	EN_GY_ST	EN_GX_ST
75	117	WHO_AM_I	R	WHOAMI							
76	118	REG_BANK_SEL	R/W	-					BANK_SEL		