M5Stack Tab5 Keyboard I2C Protocol

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REG MAP (Addr: 0x6D)		0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	note
Sys Config	0x00 R/W	INT_CFG	INT_STAT	EVENT_NUM	Brightness													INT_CFG: Interrupt enable configuration [7:3]: Reserved [2]: Character mode interrupt enable bit [1]: HID mode interrupt enable bit [0]: Normal mode interrupt enable bit default: 0x07 Note: 1 in the corresponding position indicates enabled, 0 indicates disabled INT_STA: Interrupt trigger status [7:3]: Reserved [2]: Character mode interrupt trigger flag [1]: HID mode interrupt trigger flag [0]: Normal mode interrupt trigger flag Note: Write 0 is allowed. Writing 0 releases the interrupt signal and clears the status EVENT_NUM: Length of the queue in the current mode 0~32 default: 0 Note: This register will automatically decrement by 1 after reading a queue event. Write 0 is allowed. Writing 0 clears the queue in the current mode and releases the interrupt signal Brightness: RGB brightness 0~100 default: 20
Config Mode	0x10 R/W	Keyboard	RGB															Keyboard: Key working mode 0: Normal mode 1: HID mode 2: Character mode default: 0 Note: Switching modes will clear the queue of the previous mode and release the interrupt signal. RGB: RGB working mode 0: Binding mode 1: Custom mode default: 0
KEY_EVENT	0x20 R	Event																Normal mode events: [7]: Press state, 1 = Press, 0 = Release [6:4]: Row (0~4) [3:0]: Column (0~13) Note: Event length is 1 byte, the data returned when the queue is empty is 0xFF
HID_EVENT	0x30 R	Modifier	Key_code															HID Mode Events: Modifier (modifier) Key_code (key code) Note: Event length is 2 bytes; if the queue is empty, the returned data is 0xFF.
CHAR_EVENT_LENGTH	0x40 R	Length																The string pattern is the length of the string at the head of the queue. Returns 0 if the queue is empty.
CHAR_EVENT	0x50 R	Modifier	Char0	Char1	Char2	Char3	Char4	Char5	Char6	Char7	Char8							Character mode events: Modifier (bit 0 = 1 indicates Ctrl pressed, bit 2 = 1 indicates Alt pressed) Character for the event, maximum possible character length is 9. Note: The event length needs to be read from register 0x40 first. The event includes 1 byte of modifier + string length. The actual length to be read should be the value read from register 0x40 + 1.
RGB Color	0x60 R/W	RGB1_B	RGB1_G	RGB1_R		RGB2_B	RGB2_G	RGB2_R										RGB: Color value: 0~255 default: 0 Note: User-defined RGB buffer, only valid in RGB custom mode.
Firmware Version	0xF0 R															Version		Version: Software Version
I2C Address	0xF0 R/W																Address	Address: I2C Address 0x08~0x77 default: 0x6D

Notes:

1. The I2C address register is used to set the I2C device address. The new address takes effect immediately after being set and is stored in the internal Flash memory, remaining valid even after a power outage and restart.
2. Flash memory must be erased before writing, a time-consuming process that takes approximately 20ms.
3. To extend the lifespan of the Flash memory, please avoid frequent write operations.
4. If the value to be written is the same as the currently stored value in the Flash memory, no actual write operation will be performed, thus reducing unnecessary Flash erasure and further extending its lifespan.