Yosun SX9513 Touch Command Syntax

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1 Introduction

The Yosun SX9513 Touch module can be driven via the serial interface using specific commands. The command is similar to standard AT command.

1.1 *Definitions*

The following syntactical definitions apply:

<CR>

Carriage return character, is the command line and result code terminator character, which value, in decimal ASCII between 0 and 255, is specified within parameter S3. The default value is 13.

<...>

Name enclosed in angle brackets is a syntactical element. They do not appear in the command line.

[...]

Optional sub-parameter of a command or an optional part of TA information response is enclosed in square brackets. Brackets themselves do not appear in the command line. When sub-parameter is not given in AT commands which have a Read command, new value equals to its previous value. In AT commands which do not store the values of any of their sub-parameters, and so have not a Read command, which are called action type commands, action should be done on the basis of the recommended default setting of the sub-parameter.

2 Command Syntax

<at+><cmd body><=><S1>[,][S2]<CR>

Rule 1: All chars within command are small letters.
Rule 2: All commands must be terminated by Carriage Return <CR>.
Rule 3: Space is treated as parameter within command.
Rule 4: Prefix of command is “at+”.

3 Command Availability Table

COMMAND	Description
at+version=?<CR>	Check MCU firmware version. It is stored in EEPROM of MCU.
at+diffdata=<S1>,<S2><CR>	The Touch Status register will indicate when a touch occurs on one of the BL channels. A touch is indicated when a channels DiffData value goes at least the Hyst value above its threshold level for debounce number of consecutive measurement cycles. A touch is lost when a channels DiffData value goes at least Hyst value below it's threshold for debounce number of measurement cycles. This is a dynamic read only regester that is not stored in NVM. Example: BL2 is set to a threshold of 400 (0x21 = 0x19), a Hyst of 8 (0x37 [7:5] = 3'b001), a touch debounce of 0 (0x33 [3:2] = 2'b00) and a release debounce of 2 (0x33 [1:0] = 2'b01). A touch will be indicated the first measurement cycle that the DiffData goes above 408 and the touch will be lost when the DiffData value goes below 392 on two successive measurement cycles.
	Parameter: <S1> selected channel. **S1 is one digit number and ranges from 0 to 7.** <S2> number of display data. **S2 is 2 digit number and ranges from 00 to 99.**
	Response: MCU will continuously read the data then display them. The display data is separated by <SPACE>.
at+comp=?<CR>	Display offset compensation DAC code.
at+touchstatus==?<CR>	Show value of register 0x00 (Interrupt Source) and 0x01 (Touch Status)
at+sx9513conf=<S1>[,][S2]<CR>	Check or set parameter of SX9513 configuration
	<S1> register address of SX9513. Please

	refer to SX9513 datasheet. [S2] writing value which user wants to write it into register S1.
	Response: If there is only S1, then it returns related register value. If there are S1 & S2, then it writes value S2 into register S1 and returns “ok”..