LSM100A Sigfox CLI Command Interface Manual

Rev 1.0

SJI

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History

Date	Contents	Version	
2022-01-28	Create	V1.0	

1. AT command complete set

A typical serial terminal emulator can also be used to control the EVK instead of the proposed test SW. In that case the following parameters should be used:

• Speed: 9600 bauds

Data bits: 8Stop bits: 1Parity: None

The following table gather all AT command available:

2. Sigfox RF Test Description

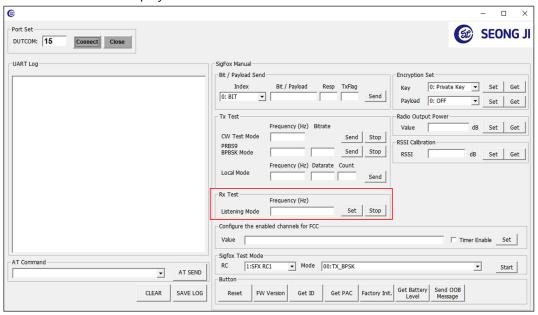
2.1 RF standard test

1) Input AT Command command to LSM100A used as RX

EX) AT+RL=869525000

Test Result

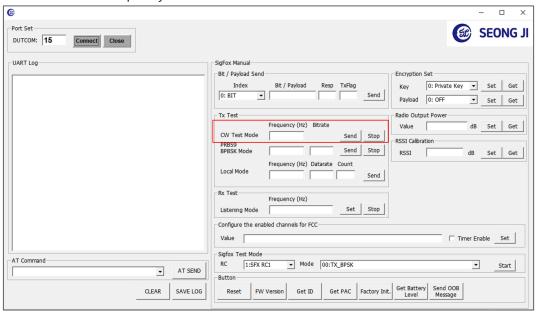
- → if received success display "TEST PASSED"
- → if received fail display "Wait For End of Rx"



2) Input AT Command command to LSM100A used as TX

EX) AT+CW=868130000

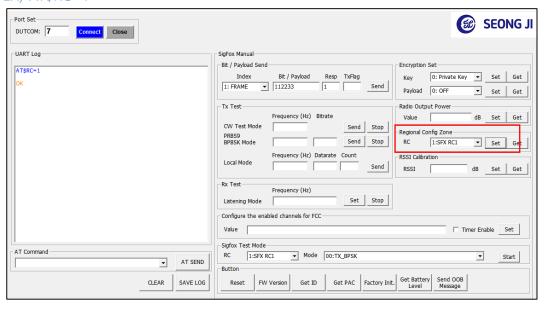
→ Transmit frequency to Continuous wave



2.2 Backend test

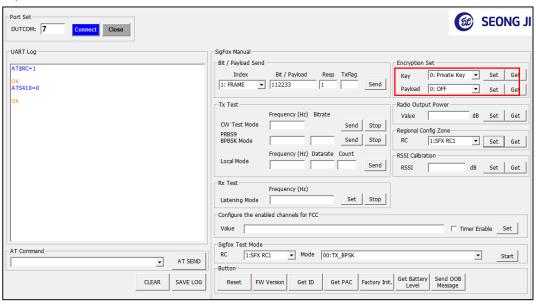
1) Select regional config zone

EX) AT\$RC=1



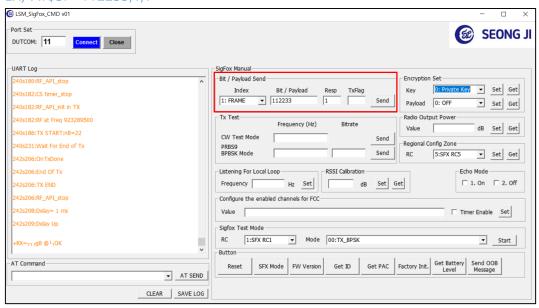
2) Key setting

EX) ATS410=0



2) Send dataa

EX) AT\$SF=112233,1,1



3. Sigfox Command

Command	Name	Description
AT?	Help on all <cmd></cmd>	Help on All Commands
		Ex) AT? (CR)
ATZ	Reset	Trig a MCU reset.
		Ex) ATZ (CR)
ATE=mode	Echo mode	Not used except to set echo mode.
		<mode>: [0: echo ON, 1: echo OFF]</mode>
		Ex) ATE=1 (CR)
		ATE=? (CR) Get echo mode
AT+BAT=?	Battery level	Get the battery level (in mV).
		5) AT DAT 2 (CD)
AT+VL=level	Verbose level	Ex) AT+BAT=? (CR) Set or Get the verbose level.
AT+VL=ievei	verbose level	<pre><level>: [0: off, 1: Low, 2: Meddle, 3: High]</level></pre>
/// / / /		stevers : [o. on, 1. Low, 2. Medate, 3. Fight]
		Ex) AT+VL=3 (CR)
		AT+VL=? (CR) Get level
AT+MODE=mode	Mode Change	LoRa & Sigfox Mode Change. After a MCU reset.
AT+MODE=?		<mode>: [0: SigFox, 1: LoRa]</mode>
		Ex) AT+MODE=1 (CR)
AT\$SSWVER=?	Software version	AT+MODE=? (CR) Get mode Get the Software version.
AI\$33WVLIV-:	Software version	Get the Software version.
		Ex) AT\$SSWVER=? (CR)
AT+VER=?	Firmware and	Get the version of firmware and libraries.
	library versions	
		Ex) AT+VER=? (CR)
AT\$RFS	Factory settings	Restores the factory setting.
		F) ATAPEC (CD)
AT¢ID	Davisa ID	Ex) AT\$RFS (CR) Get the 32-bit device ID.
AT\$ID	Device ID	Get the 32-bit device ib.
		Ex) AT\$ID (CR)
		ENTITIFIE (CIT)

Command	Name	Des	cription
AT\$PAC	Device PAC	Get the 8-byte device PA	.C.
		Ex) AT\$PAC (CR)	
AT\$SB=bit_value{,opt_resp	Bit status	Send a bit to the Sigfox i	network.
onsewaited}{,opt_txflag}		 	
		<pre><opt_responsewaited> 0</opt_responsewaited></pre>	: no response waited
		(default)	** 1
		<pre><opt_responsewaited> 1</opt_responsewaited></pre>	•
		<pre><opt_txflag> 0: one Tx fr</opt_txflag></pre>	
		<pre><opt_txflag> 1: three Tx</opt_txflag></pre>	Trame Sent (derauit)
		Ex) AT\$SB=0,1,1 (CR)	
		AT\$SB=1 (CR) sends	bit 1 with no response
		waited.	,
		AT\$SB=0,1 (CR) sends	s bit 0 with a response
		waited.	
		AT\$SB=0,1,1 (CR) sends	bit 0 with a response
		wait	ed and with three Tx frames
		sent	
AT\$SF=payload{,opt_resp	ASCII payload in	Send a frame to the Sigfox network.	
onsewaited}{,opt_txflag}	bytes	<payload>: [12 bytes m.</payload>	aximum in ASCII format (24
		ASCII characters max)]	
		<pre><opt_responsewaited>: [(default)]</opt_responsewaited></pre>	0: no response waited
		<pre><opt_responsewaited>: [</opt_responsewaited></pre>	1: response waited]
		<pre><opt_txflag>: [0: one Tx</opt_txflag></pre>	frame sent]
		<opt_txflag>: [1: three T</opt_txflag>	x frames sent (default)]
		Ex) AT\$SF=313245,1,1 (Cl	R)
		AT\$SF=313245 (CR) s	sends 0x31 0x32 0x45
			payload with no response waited.
		AT\$SF=313245,1 (CR) se	ends 0x31 0x32 0x45
		p	payload with a response
		V	vaited.
		AT\$SF=313245,1,1 (CR) s	sends 0x31 0x32 0x45
		þ	payload with a response
		V	waited and with three Tx
		f	rames sent.

Command	Name	Description	
AT\$SH=payload_length,	Hexadecimal	Send a Hex frame to the Sigfox network.	
payload{,opt_responsewait	payload in bytes	<payload_length>: [length in bytes]</payload_length>	
ed}{,opt_txflag}		<payload>: [12 bytes maximum in hexadecimal</payload>	
		format]	
		<pre><opt_responsewaited>: [0: no response waited</opt_responsewaited></pre>	
		(default)]	
		<pre><opt_responsewaited>: [1: response waited]</opt_responsewaited></pre>	
		<pre><opt_txflag>: [0: one Tx frame sent]</opt_txflag></pre>	
		<pre><opt_txflag>: [1: three Tx frames sent (default)]</opt_txflag></pre>	
		Ex) AT\$SH=1,A,1 (CR)	
		AT\$SH=1,A (CR) sends 0x41 payload with no	
		response waited.	
		AT\$SH=1,A,1 (CR) sends 0x41 payload with a	
		response waited.	
AT\$CW=freq	Continuous	Start or stop a continuous unmodulated carrier for	
	wave(CW)	test. Run CW Test mode.	
		<freq>: frequency (in Hz)</freq>	
		Ex) AT\$CW=868130000 (CR)	
		AT\$CW=0 (CR) Stop a CW	
AT\$PN=freq,bitrate	PRBS9 BPBSK test	Run PRBS9 BPBSK Test mode. Send a continuous	
	mode	modulated carrier for test.	
		<freq>: frequency (in Hz)</freq>	
		Ex) AT\$PN=868130000,100 (CR)	
		AT\$PN=0 (CR) Stop a BPBSK	

Command	Name	Description	
AT\$TM=rc,mode	Sigfox test mode	Start a Sigfox test mode.	
AT\$TIM=rc,mode	sigiox test mode	Start a signox test mode. <rc> <rc> <pre> SFX_RC1 = 1</pre></rc></rc>	
AT\$RSSICAL=value AT\$RSSICAL=?	RSSI value in dB	Ex) AT\$TM=1,0 (CR) Set or Get the RSSI calibration value in dB. <value>: calibration value (in dB) Ex) AT\$RSSICAL=0 (CR) AT\$RSSICAL=? (CR)</value>	
AT\$RL=freq	Listening for a data packet	Starts listening for a local loop. <freq>: frequency (in Hz) Stop by input 'X' Ex) AT\$RL=869525000 (CR)</freq>	
AT\$SL=freq,datarate,count	Send local loop	Send TX packet up to count number for local test. <freq>: frequency (in Hz) <datarate>: data rate (in bps) <count>: send packets counter Ex) AT\$SL=869525000,600,10 (CR)</count></datarate></freq>	
ATS300	Out-of-band message	Send one keep-alive out-of-band message. Ex) ATS300 (CR)	

Command	Name	Description
ATS302=power	Radio output	Set or Get the radio output power.
ATS302=?	power	<power> : power (in dBm)</power>
		Ex) ATS302=15 (CR)
		ATS302=? (CR) Get power
ATS400=<8_digit_word0>	Enabled channels	Configure the enabled channels for FCC.
<8_digit_word1><8_digit_	for FCC	
word2>,timer_enable		Ex) ATS400=0000000040000000000000000,0 (CR)
ATS410=key	Encryption key	Set or Get the configuration of the device encryption
ATS410=?		key.
		<key>: [0: Use Private key, 1: Use Public key]</key>
		Ex) ATS410=1 (CR)
		ATS410=? (CR) Get the encryption key
ATS411=mode	Payload encryption	Set or Get the device payload encryption mode.
ATS411=?		<mode>: [0:Payload Encryption OFF,</mode>
		1:Payload Encryption ON}
		Ex) ATS411=1 (CR)
		ATS411=? (CR) Get payload encryption