LSM100A Sigfox CLI Command Interface Manual

Rev 1.0

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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:

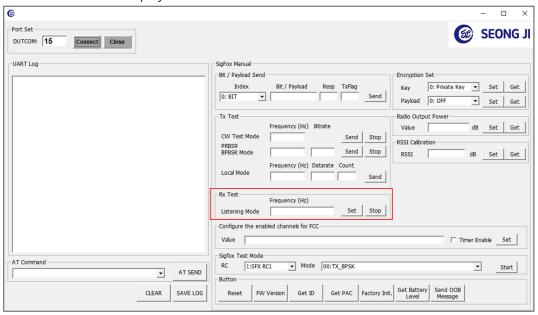
2. Sigfox RF Test Description

2.1 RF standard test

- 1) Input AT Command command to LSM100A used as RX
 - EX) AT+RL=869525000

Test Result

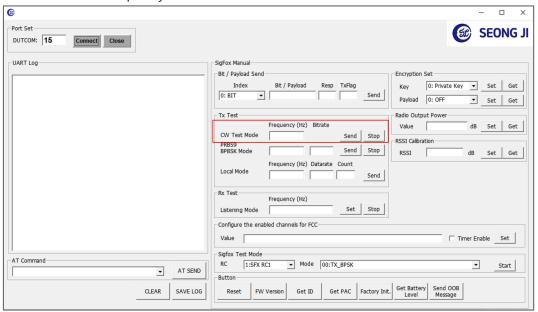
- → if received success display "TEST PASSED"
- → if received fail display "Wait For End of Rx"



2) Input AT Command command to LSM100A used as TX

EX) AT+CW=868130000

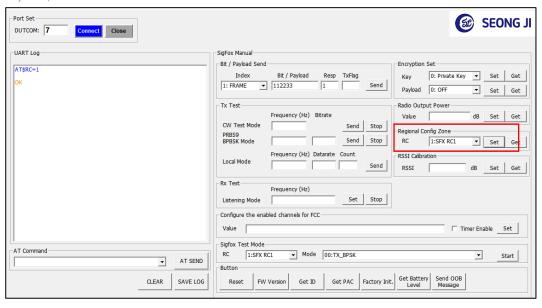
→ Transmit frequency to Continuous wave



2.2 Backend test

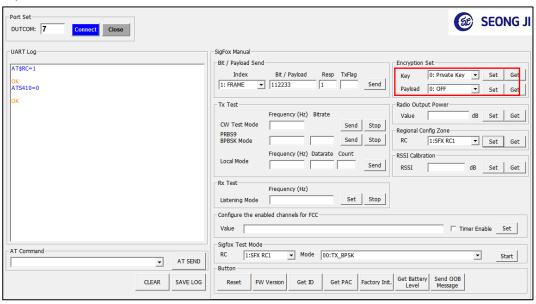
1) Select regional config zone

EX) AT\$RC=1



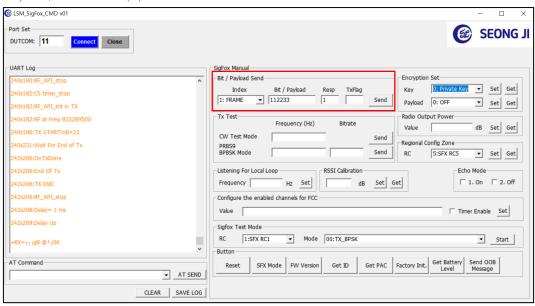
2) Key setting

EX) ATS410=0



2) Send data

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	Verbese level	Ex) AT+BAT=? (CR) Set or Get the verbose level.
AT+VL=level	Verbose level	<pre><level>: [0: off, 1: Low, 2: Meddle, 3: High]</level></pre>
AITVL-:		riever >. [0. on, 1. Low, 2. Meddie, 3. High]
		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.
VI \$2244 AEV- ;	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.
		5) 474P50 (GB)
ATÉLO	Davies ID	Ex) AT\$RFS (CR)
AT\$ID	Device ID	Get the 32-bit device ID.
		Ex) AT\$ID (CR)
		LA, AI VID (CIT)

Command	Name	Description	
AT\$PAC	Device PAC	Get the 8-byte device PAC.	
		Ex) AT\$PAC (CR)	
AT\$SB=bit_value{,opt_resp	Bit status	Send a bit to the Sigfox network.	
onsewaited}{,opt_txflag}		 	
		<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 frame sent (default)</opt_txflag></pre>	
		Ex) AT\$SB=0,1,1 (CR)	
		AT\$SB=1 (CR) sends bit 1 with no response	
		waited.	
		AT\$SB=0,1 (CR) sends bit 0 with a response	
		waited.	
		AT\$SB=0,1,1 (CR) sends bit 0 with a response	
		waited 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	<pre><payload>: [12 bytes maximum in ASCII format (24</payload></pre>	
		ASCII characters max)]	
		<pre><opt_responsewaited>: [0: no response waited</opt_responsewaited></pre>	
		<pre>(default)] <opt_responsewaited>: [1: response waited]</opt_responsewaited></pre>	
		<pre><opt_response <opt_txflag="" waited="" ="">: [0: one Tx frame sent]</opt_response></pre>	
		<pre><opt_txflag>: [1: three Tx frames sent (default)]</opt_txflag></pre>	
		Ex) AT\$SF=313245,1,1 (CR)	
		AT\$SF=313245 (CR) sends 0x31 0x32 0x45	
		payload with no response	
		waited.	
		AT\$SF=313245,1 (CR) sends 0x31 0x32 0x45	
		payload with a response	
		waited.	
		AT\$SF=313245,1,1 (CR) sends 0x31 0x32 0x45	
		payload with a response	
		waited and with three Tx	
		frames sent.	

Command	Name	Description	
AT\$SH=payload_length,	Hexadecimal	Send a Hex frame to the Sigfox network.	
payload{,opt_responsewait	payload in bytes	<pre><payload_length>: [length in bytes]</payload_length></pre>	
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>	
		F.) ATCLL 1 A 1 (CD)	
		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	
ΑΤΦCIAL for a	Cantinuana	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.	
		<rc></rc>	
		SFX_RC1 = 1 SFX_RC2 = 2 SFX_RC3C = 3C	
		$SFX_RC4 = 4$ $SFX_RC5 = 5$ $SFX_RC6 = 6$	
		SFX_RC7 = 7	
		<mode></mode>	
		SFX_TEST_MODE_TX_BPSK = 0	
		SFX_TEST_MODE_TX_PROTOCOL = 1	
		SFX_TEST_MODE_RX_PROTOCOL = 2	
		SFX_TEST_MODE_RX_GFSK = 3	
		SFX_TEST_MODE_RX_SENSI = 4	
		SFX_TEST_MODE_TX_SYNTH = 5	
		SFX_TEST_MODE_TX_FREQ_DISTRIBUTION = 6	
		SFX_TEST_MODE_TX_BIT = 11	
		SFX_TEST_MODE_PUBLIC_KEY = 12	
		SFX_TEST_MODE_NVM = 13	
		Ex) AT\$TM=1,0 (CR)	
AT\$RSSICAL=value	RSSI value in dB	Set or Get the RSSI calibration value in dB.	
AT\$RSSICAL=?		<value>: calibration value (in dB)</value>	
		Ex) AT\$RSSICAL=0 (CR)	
		AT\$RSSICAL=? (CR)	
AT\$RL=freq	Listening for a data	Starts listening for a local loop.	
	packet	<freq>: frequency (in Hz)</freq>	
		Stop by input 'X'	
		Fv) AT¢RI = 060F2F000 (CR)	
ATCI _from data	Cond lacel lace	Ex) AT\$RL=869525000 (CR)	
AT\$SL=freq,datarate,coun	Send local loop	Send TX packet up to count number for local test.	
t		<freq>: frequency (in Hz)</freq>	
		<datarate>: data rate (in bps)</datarate>	
		<count>: send packets counter</count>	
		Ex) AT\$SL=869525000,600,10 (CR)	
ATS300	Out-of-band	Send one keep-alive out-of-band message.	
7113300	message	Send one keep diive out-oi-band message.	
	message	Ex) ATS300 (CR)	
		LA) A13300 (CN)	

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