TinySA Serial Port Interface Commands Overview

Revision 5, TimeStamp: 20230108

Note: This unofficial listing is only a guideline that provides a majority summary of the command set and is a work-in-progress. There are additional commands supported by the firmware that are not described here.

actual_freq	sets or dump the frequency correction set by CORRECT FREQUENCY menu usage: actual_freq [{frequency}]
attenuate	sets the internal attenuation to automatic or a specific value usage: attenuate [auto|0-31]
bulk	send by tinySA when in auto refresh mode format: "bulk\r\n{X}{Y}{Width}{Height}{Pixeldata}\r\n" where all numbers are binary coded 2 bytes little endian. The Pixeldata is encoded as 2 bytes per pixel
calc	sets or cancels one of the measurement modes usage: calc off|minh|maxh|maxd|aver4|aver16|quasip the commands are the same as those listed in the MEASURE menu
caloutput	disables or sets the caloutput to a specified frequency in MHz usage: caloutput off|30|15|10|4|3|2|1
capture	requests a screen dump to be send in binary format of 320x240 pixels of each 2 bytes
clearconfig	resets the configuration data to factory defaults usage: clearconfig 1234
color	sets or dumps the colors used usage: color [{id} {rgb24}]
correction	sets or dumps the frequency level correction table usage: correction [0..9 {frequency} {level}]
dac	sets or dumps the dac value usage: dac [0..4095]
data	dumps the trace data usage: data 0..2 0=temp value, 1=stored trace, 2=measurement
deviceid	sets of dumps a user settable number that can be use to identify a specific tinySA usage: deviceid [{number}]
ext_gain	sets the external attenuation/amplification usage: ext_gain -100..100 Works in both input and output mode
fill	send by tinySA when in auto refresh mode format: "fill\r\n{X}{Y}{Width}{Height}{Color}\r\n" where all numbers are binary coded 2 bytes little endian.
freq	pauses the sweep and sets the measurement frequency usage: freq {frequency}
frequencies	dumps the frequencies used by the last sweep usage: frequencies

if	sets the IF to automatic or a specific value usage: if (0 | 433M..435M) where 0 means automatic
info	displays various SW and HW information
help	dumps a list of the available commands
hop (Ultra only)	measures the input level at each of the requested frequencies usage: hop {start(Hz)} {stop(Hz)} {step(Hz) | points} [outmask] If the 3rd parameter is below 450 it is assumed to be points, otherwise as step frequency. outmask is a binary OR of 1=frequencies, 2=measured data, 4=stored data and points
level	sets the output level usage: level -76..13 Not all values in the range are available
levelchange	sets the output level delta for low output mode level sweep usage: levelchange -70..+70
leveloffset	sets or dumps the level calibration data usage: leveloffset low|high|switch [output] {error} For the output corrections first ensure correct output levels at maximum output level. For the low output set the output to -50dBm and measure and correct the level with "leveloffset switch error" where For all output leveloffset commands measure the level with the leveloffset to zero and calculate. error = measured level - specified level
load	loads a previously stored preset usage: load 0..4 where 0 is the startup preset
marker	sets or dumps marker info usage: marker {id} on|off|peak|{freq}|{index} where id=1..4 index=0..num_points-1 Marker levels will use the selected unit Marker peak will activate the marker (if not done already), position the marker on the strongest signal and display the marker info The frequency must be within the selected sweep range
mode	sets the mode of the tinySA usage: mode low|high input|output
modulation	sets the modulation in output mode usage: modulation off|AM_1kHz|AM_10Hz|NFM|WFM|extern
output	sets the output on or off usage: output on|off
pause	pauses the sweeping in either input or output mode usage: pause
rbw	sets the rbw to either automatic or a specific value usage: rbw auto|3..600 the number specifies the target rbw in kHz
recall	same as load

refresh	enables/disables the auto refresh mode usage refresh on|off
release	signals a removal of the touch usage: release
reset	resets the tinySA usage: reset
resume	resumes the sweeping in either input or output mode usage: resume
save	saves the current setting to a preset usage: save 0..4 where 0 is the startup preset
saveconfig	saves the device configuration data usage: saveconfig
scan	performs a scan and optionally outputs the measured data usage: scan {start(Hz)} {stop(Hz)} [points] [outmask] where the outmask is a binary OR of 1=frequencies, 2=measured data, 4=stored data and points
scanraw	performs a scan of unlimited amount of points and send the data in binary form usage: scanraw {start(Hz)} {stop(Hz)} [points] The measured data is the level in dBm and is send as '{' ('x' MSB LSB)*points '}'. To get the dBm level from the 16 bit data, divide by 32 and subtract 128.
selftest	performs one or all selftests usage: selftest 0 0..9
spur	enables or disables spur reduction usage: spur on|off
status	Usage: reports paused or resumed
sweep	set sweep boundaries or execute a sweep usage: sweep [(start|stop|center|span|cw {frequency}) | ({start(Hz)} {stop(Hz)} [0..290])] Sweep without arguments lists the current sweep settings, the frequencies specified should be within the permissible range. The sweep commands apply both to input and output modes
sweeptime	sets the sweeptime usage: sweep {time(Seconds)}the time specified may end in a letter where m=mili and u=micro
sweep_voltage	usage: sweep_voltage {value(0-3.3)}
threads	lists information of the threads in the tinySA
touch	sends the coordinates of a touch usage: touch {X coordinate} {Y coordinate} The upper left corner of the screen is "0 0"
touchcal	starts the touch calibration
touchtest	starts the touch test

trace	displays all or one trace information or sets trace related information usage: trace [{0..2} | dBm|dBmV|dBuV|V|W |store|clear|subtract | (scale|reflevel) auto|{level}
trigger	sets the trigger type or level usage: trigger auto|normal|single|{level(dBm)} the trigger level is always set in dBm
usart_cfg	Reports port baud rate (default 115,200)
vbat	displays the battery voltage
vbat_offset	displays or sets the battery offset value usage: vbat_offset [{0..4095}]
version	displays the version text
zero	Reports zero reference level usage: zero {level}
	Command list last modified on January 8, 2023