LIBRE
WIRELESS TECHNOLOGIES

LIBRE SYNC

Shell Commands
Technical Note
Module : LSx

Rev: 1.4

Libre Wireless Technologies Private Limited

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1. Document Information

1.1. Abstract

This document lists all the shell commands and its values, to configure different settings in LS-Module.

1.2. Document Convention

Icon	Meaning	Description
	Note	Provides information good to know
	Caution	Indicates situation that might result in loss of data or hardware damage

1.3. Revision History

Revision	Date	Description of change
0.1	December 8, 2014	Draft
1.0	December 9, 2014	Content Restructure
1.1	February 23, 2015	Added details of some more commands
1.2	October 13, 2015	Added Command list
1.3	February 12, 2017	Added details of some more commands
1.4	April 18, 2018	Added ACPTest & command

2.Shell Commands

This section covers snapshot of shell commands. For step by step description of the shell commands, refer to LibreSync User Guide ***LibreWirelessUserGuide-LS_Platform_LSx***.

2.1. Generic Commands

2.1.1. reboot

Description: Issuing a reboot command in the device terminal, restarts the LS-Module.

Syntax:

#reboot

Example:

```
root@android:/ #
root@android:/ # reboot
```

2.1.2. fwupgrade

Description: Initiates Firmware Upgrade process from SD-Card / USB

Syntax:

#fwupgrade

Example:

```
root@libre:/ #
root@libre:/ # fwupgrade
```

2.1.3. startwac &

Description: Triggers LS-Connect.

Syntax:

#startwac &

Example:

```
root@libre:/ #
root@libre:/ # startwac &
[1] 684
```

2.1.4. #wpa_cli wps_pbc

Description: Triger WPS from Command Line

.

Syntax:

#wpa_cli_wps_pbc

Example:

```
root@libre:/ #
root@libre:/ # wpa_cli_wps_pbc
```

2.1.5. LUCI_local

Description: Is used to send the Message-Box details via Command Line.

Syntax:

#LUCI_local

Example:

```
root@libre:/ #
root@libre:/ # LUCI_local 64 100
```

2.1.6. Logcat

Description: Is used to enable the log details in the command line.

Syntax:

#getprop

Example:

```
root@libre:/ #
root@libre:/ # logcat
```

2.1.7. iperf

Description: Used to test throughput.

Syntax:

#iperf --help

Example:

```
root@libre:/ #
root@libre:/ # iperf --help
```

2.1.8. getprop

Description: Provides the current LSx firmware version number.

Syntax:

#getprop

Example:

```
root@libre:/ # getprop
ENG.LS6_NB0099.910.K329.20150223.113806
root@libre:/ #
```

2.2. Network

2.2.1. netif

Description: Network Interface is an NV-item used to enable users to, set the type of Network interface.

Syntax:

#setenv netif <<value>>

Example:

Ethernet: #setenv netif <<eth0>>

Wi-Fi: #setenv netif <<wlan0>>

Auto: #setenv netif <<auto>>

```
127|root@android:/ #
127|root@android:/ # setenv netif eth0
ENV: netif updated successfully

root@android:/ # setenv netif wlan0
ENV: netif updated successfully

root@android:/ # setenev netif auto
ENV: netif updated successfully
```

Parameter	Value	Description
Ethernet	eth0	Enables Ethernet connection for LS-Module.
Wi-Fi	wlan0	Enables Wi-Fi connection for LS-Module.
Auto	auto	Automatically detects the network interface, based on the connection available.

2.2.2. netcfg

Description: This command shows the current network status of LS-Module. Network status includes MAC ID and IP address of the interfaces such as WLAN, P2P, and Ethernet.

Syntax:

#netcfg

Example:

```
127|root@android:/ # netcfg
wlan0    UP                                10.0.1.13/24  0x00001043 00:cc:33:1d:6f:cc
p2p0     DOWN                               0.0.0.0/0     0x00001002 00:cc:33:1d:6f:cd
eth0     UP                                 0.0.0.0/0     0x00001003 00:0c:43:76:20:77
lo       UP                                127.0.0.1/8    0x00000049 00:00:00:00:00:00
```

2.2.3. startwac

Description: The command initiates WAC mode.

Syntax:

#startwac &

Example:

```
root@android:/ # startwac &
```

2.2.4. iwpriv

Description: The command shows statistics of WLAN connection. It includes details such as PER, PLR, RSSI, and so on.

Syntax:

iwpriv wlan0 stat

Example:

```
root@android:/ # iwpriv wlan0 stat
wlan0     stat:

Tx success                          = 80625
Tx retry count                      = 35388, PER=31.3%
Tx fail to Rcv ACK after retry      = 1492, PLR=1.81%
Rx success                          = 129991
Rx with CRC                         = 183970, PER=58.5%
Rx drop due to out of resource      = 0
Rx duplicate frame                  = 57
False CCA                           = 2817841
RSSI                                = -49 -55 -99
Last RX Rate                        = MCS 2, 20M, LGI, CCK
SNR-A                               = 16
SNR-B (if available)                = 21

WpaSupplicantUP                     = 129

RT2860 Linux STA PinCode            67011506
WPS Information(Driver Auto-Connect is Enabled - 2):
WPS not used.

WPS Profile Count                   = 0
```

2.2.5. WAC_SSID

Description: WAC_SSID is the NV-Item to store SSID of the LS-Module in WAC Mode. This enables user to edit LS-Module's SSID for WAC mode.

Syntax:

setenv WAC_SSID <<Value>>

Example:

#setenv WAC_SSID NewSSIDName

```
root@android:/ # setenv WAC_SSID NewSSIDName
ENV: WAC_SSID updated successfully
```

2.2.6. wpa_cli

Description: This command is used to initiate WPS Push Button process.

Syntax:

wpa_cli wps_pbc

Example:

```
root@android:/ # wpa_cli wps_pbc
Using interface 'wlan0'
OK
```

2.3. DDMS

2.3.1. ddms_SSID

Description: The SSID of the DDMS-Zone in SA-Mode can be edited using the NV-Item ddms_SSID.

Syntax:

#setenv ddms_SSID <<value>>

Example:

#setenv ddms_SSID Direct-LBMyTestZone

```
root@android:/ # setenv ddms_SSID Direct-LBMyTestZone
ENV: ddms_SSID updated successfully
root@android:/ #
```

2.3.2. ddms_password

Description: The password for DDMS-Zone can be edited using the NV-item ddms_password.

Syntax:

#setenv ddms_password <<value>>

Example:

#setenv ddms_password hello123

```
root@android:/ # setenv ddms_password hello123
```

2.4. I2S Clock

2.4.1. LRCK

Description: NV-Item LRCK is used to edit the frequencies of the I2S LR-Clock.

Syntax:

#setenv LRCK <<value>>

Example:

44.1KHz: #setenv LRCK 44100

48KHz: #setenv LRCK 48000

```
root@android:/ # setenv LRCK 44100
ENV: LRCK updated successfully
root@android:/ #
root@android:/ # setenv LRCK 48000
ENV: LRCK updated successfully
```

Parameter	Value	Description
44.1KHz	44100	Sets the I2S LR-Clock at frequency of 44.1KHz
48KHz	48000	Sets the I2S LR-Clock at frequency of 48KHz

2.4.2. MCLK

Description: NV-Item MCLK is used to edit the frequencies of the I2S M-Clock.

Syntax:

#setenv MCLK <<value>>

#reboot

Example:

12MHz: #setenv MCLK 12000000

12.288MHz: #setenv MCLK 12288000

```
root@android:/ # setenv MCLK 12288000
ENV: MCLK updated successfully
root@android:/ # reboot
[  108.710000] SysRq : Emergency Remount R/O
[  108.720000] Emergency Remount complete
[  108.730000] Restarting system.
```

Parameter	Value	Description
12MHz	12000000	Sets the I2S M-Clock at frequency of 12MHz.
12.288MHz	12288000	Sets the I2S M-Clock at frequency of 12.288MHz.

2.5. Non-Volatile Items

2.5.1. setenv

Description: The command **#setenv** is used to edit the default values of the NV-Items in LS-Application.

Syntax:

#setenv <NV_item_name> <<value>>

Example:

#setenv hostpresent 1

```
root@android:/ # setenv hostpresent 1
ENV: hostpresent updated successfully
```

NV-Item Name	Value	Description
hostpresent	1 0	Host Communication NV-item avoids Junk data/false triggers, in case of EVK's where UART1 communication is typically not required. • Setting value to 1 enables Host-MCU Communication • Setting value to 0 disables Host-MCU communication
telnet	1 0	Telnet enables bidirectional interactive text-oriented communication with the LS-Platform Device. • Setting value to 1 enables Telnet • Setting value to 0 disables Telnet
netif	eth0 wlan0 auto	Network Interface NV-item allows user to set the type of Network interface such as Ethernet, Wi-Fi or Auto. • Setting value as eth0, enables Ethernet • Setting value as wlan0. enables Wi-Fi • Setting value as auto, enables auto detection of type of network interface
ddms_SSID	Text string	The SSID of the DDMS-Zone in SA-Mode can be edited using the NV-Item ddms_SSID.
ddms_password	Text string	The password for DDMS-Zone can be edited using the NV-item ddms_password.

LRCK	44100 48000	NV-Item LRCK is used to edit the frequencies of the I2S LR-Clock. • Setting value as 44100, sets the LR-Clock at frequency of 44.1 KHz • Setting value as 48000, sets the LR-Clock at frequency of 48 KHz
MCLK	12000000 12288000	NV-Item MCLK is used to edit the frequencies of the I2S M-Clock. • Setting value as 12000000, sets the M-Clock at frequency of 12MHz • Setting value as 12288000, sets the M-Clock at frequency of 12.288MHz
ACPpresent	1 0	NV-Item ACPpresent enables detection of the Apple Co-processor for ACP certificate validation. • Setting value to 1, enables ACP presence detection. • Setting value to 0, disables ACP presence detection.
Model	Text string	The NV-Item Model is used to set the model name for the Speaker or the device.
Manufacturer	Text string	The NV-Item Manufacturer is used to set the Manufacturer name for the Speaker or the device.
current_volume	0-100	The NV-item current_volume enables the user to set the volume levels for LS enabled speakers. The possible Values for the NV-Item Current Volume is between 0-100. The default value is 50.
sdcard_playindex	0 – 8 διγιτ ιντεγερ.	The NV-item sdcard_playindex holds the Play-Index of SD-Card.
WAC_SSID	Text string	
xmodem_pkt_size	128 1024	The X-MODEM Packet Size can be set using the NV-Item xmodem_pkt_size.

		• Setting value as 128 transfers the firmware image at size of 128 bytes for every packet. • Setting value as 1024 transfers the firmware image at size of 1024 bytes for every packet.
BCLK	1 0	LS-Module can be configured to operate such that, external Bluetooth module (I2S-Master) provides the I2S Clock and both CODEC / LS Module operates in I2S-Slave mode. • Setting value to 1, sets External Bluetooth as I2S-Master. • Setting value to 0, sets CODEC / DAC as I2S-Master.
AcpToLS	1 0	NV-Item ACPToLSis used to enable or disable ACP Sharing between LS-Module and Host-MCU. • Setting value to 1, enables ACP Sharing. • Setting value to 0, disables ACP Sharing.
LEDControl	1 0	LEDControl NV-Item is used to enable LED Control RGB Functionality in run time. • Setting value to 1, enables LED Control. • Setting value to 0, disables LED Control.
BT_Controller	2 1 0	BT_CONTROLLER NV-Item is used to define the BT functionality in LS-Module • Set value to 2, to Use new BT UI Board. • Set value to 1, to Use Old BT Board. • Set value to 0, to disable BT functionality
DDMS_Stream_Type	native	DDMS Stream Type is used to stream PCM for any input. The NV-Item

	raw	DDMS_Stream_Type can be set to **raw** or **native**. • Setting the DDMS_Stream_Type to **native**, will support streaming of **MP3** and **AAC** files only. • Setting the DDMS_Stream_Type to **raw**, will support streaming of Any File Format.
HOST_BAUDRATE	9600 19200 38400 57600 (default) 115200	HOST_BAUDRATE NV-Item is used to define different UART BAUDRATE
BT_DeviceName	Text String	BT_DeviceName NV-Item is used to modify the Bluetooth name of the speaker device. By default the Bluetooth name for the speaker device is LS_BT_Speaker.
DLNA_ConnClosed	1 0	DLNA_ConnClosed NV-Item is used to enable / disable the time gap between play-pause trigger. • Setting DLNA_ConnClosed to '0' will trigger Play-Pause instantaneously. • Setting DLNA_ConnClosed to '1' will provide a time gap (negligible) between Play-Pause trigger.
Country	US EU JP	NV-Item Country is used to specify the Country Code of speaker device. Country code is used to state the Speaker device region.
Serial_num	Integers	NV-Item Serial_num indicates the serial number of the speaker device. Serial number can be of maximum length of 15 characters.

Model_num	Integers	NV-Item Model_num indicates the Model of the speaker device. Model Number can be of maximum length of 15 characters.
Hardware_version	Integers	NV-Item Hardware_version indicates the hardware used in the speaker device. Hardware version can be of maximum length of 15 charatcers.
Firmware_version	Integers	NV-Item Firmware_version indicates the firmware used in the speaker device. Firmware version can be of maximum length of 15 charatcers.
fwupdate_link	String	NV-Item fwupdate_link is used to provide the URL for the firmware update over internet.
fwdownload_xml	String	NV-Item fwdownload_xml is used to provide the URL for the XML file that contains the information about Firmware version, HOST-MCU version and the link to download the firmware.
AlbumArtMaxSizeKB	Integers	NV-Item AlbumArtMaxSizeKB defines the size of the album art. The maximum album art size supported in LibreSync is 2048 KB.
SpotifyAppKey	String	NV-Item SpotifyAppKey is used to store the unique application key to access the Spotify Library.
ExternalDAC	1 0	NV-Item ExternalDAC is used to define who configures the CODEC. That is, if CODEC is configured by LS or by Host-MCU. • When the NV-Item is set to ''0 CODEC is configured by LS, and only LS can take care of the volume control. • When NV-item is set to '1', CODEC is controlled by HOST-MCU, and it should take care of the volume control.

TidalUserName	String	NV-Item TidalUserName is used to set the login credentials to access Tidal music service.
DezeerUserName	String	NV-Item DezeerUserName is used to set the login credentials to access Dezeer music service.

2.5.2. getenv

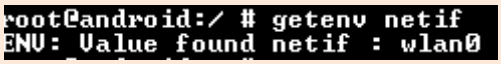
Description: The command **#getenv** is used to know the values of the NV-Items set in LS-Application.

Syntax:

#getenv <NV_item_name>

Example:

#getenv netif



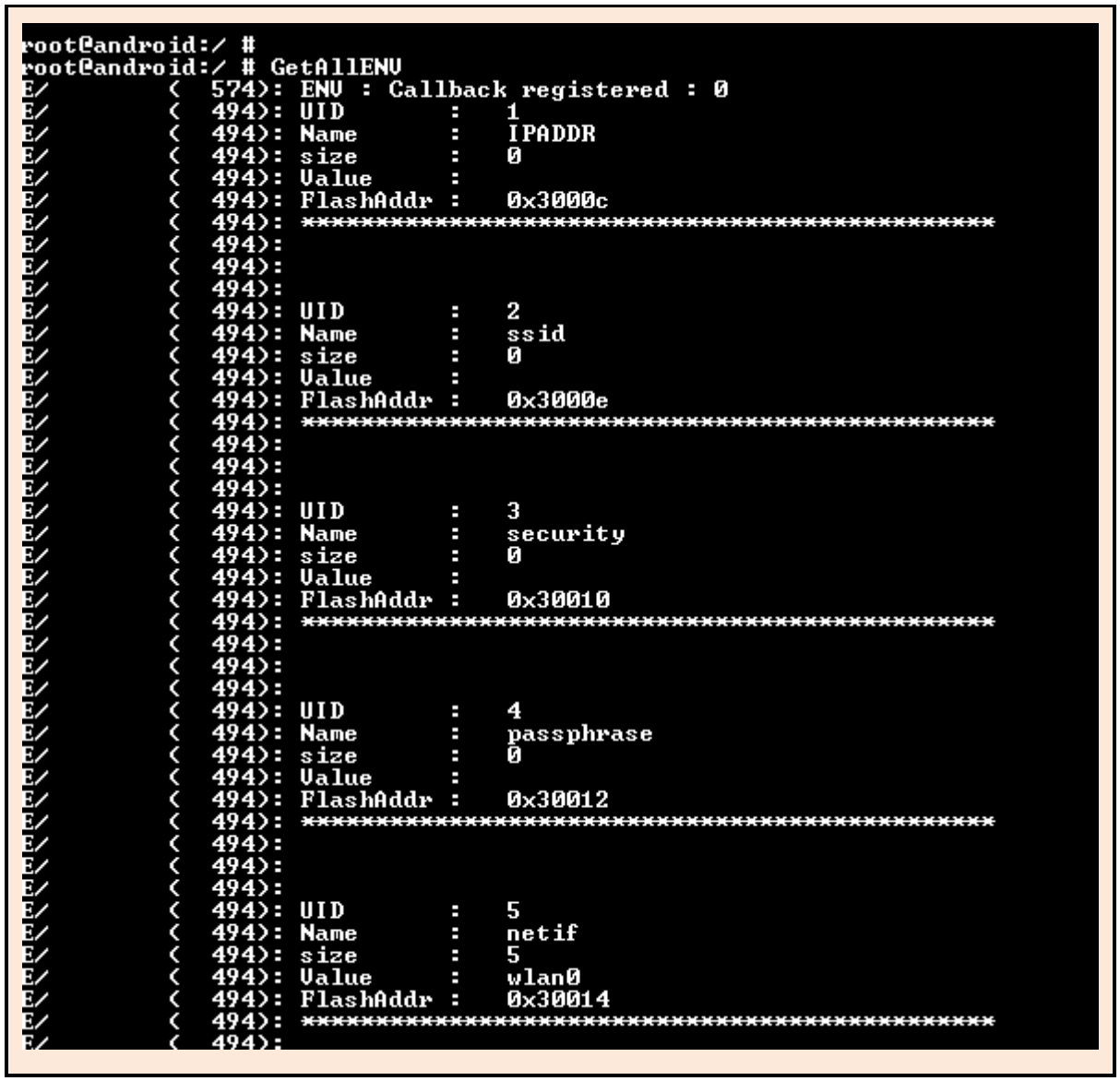
2.5.3. GetAllENV

Description: The command **#GetAllENV** is used to know all the NV-Items set

Syntax:

#GetAllENV

Example:



2.5.1. SetFacDefault

Description: The command **#SetFacDefault** is used to restore all the values of the NV-Items to its default values.

Syntax:

#SetFacDefault

Example:

```
root@android:/ #
root@android:/ # SetFacDefault
E/        (  617): ENV : Callback registered : 0
E/        (  494): ENV Update : erase.start : 0 erase.length : 65536
E/        (  494): ENV Flash : MEMUNLOCK : -1
E/        (  494): ENV Flash : MEMUNLOCK : -1
[  652.520000] SysRq : Emergency Remount R/O
[  652.530000] Emergency Remount complete
[  652.540000] Restarting system.
```

2.5.2. ACPTest &

Description: The command **ACPTest &** is used to check if ACP is present or not in the LSx device after device boots up.

Syntax:

#ACPTest &

Example:

```
# ACPTest &
[1] 1582
#
# Running ACP Test  !!! Wait ...
ACP is not present/damaged, test failed
```

When ACP is not present, test failed.

```
# ACPTest &
[6] 1596
#
Running ACP Test  !!! Wait ...
# ACP is present, test passed
```

When ACP is present, test passed.

3. Appendix

3.1. Acronyms and Abbreviations

For details on acronyms and abbreviations used in the document see "***LibreWirelessTechNote_Acronyms_And_Abbreviations_1.0***"