Non-Volatile Items in LibreSync

Technical Note

Module : LSx

Rev: 4.4

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1. Document Information

1.1. Abstract

This document provides a brief introduction to Non-Volatile items in LibreSync. This document you will find information on “Configuring Non-Volatile (NV) Items.”.

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
4.4	February 7, 2018	Updated section 3.59
4.3	December 22, 2017	Updated section 3.68, 3.69, and 3.70
4.1	November 7, 2017	Added NV-item dspconfig, section 3.104
4.0	September 14, 2017	Updated section 3.22
3.9	September 5, 2017	Added section 3.91 to 3.103
3.8	August 21, 2017	Added NV-Item ddms_BAND
3.7	August 10, 2017	Added NV-Item SpotifyClientID, CRCenable, and QuickAux
3.6	May 15, 2017	Added NV-Items

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4.4	February 7, 2018	Updated section 3.59
4.3	December 22, 2017	Updated section 3.68, 3.69, and 3.70
4.1	November 7, 2017	Added NV-item dspconfig, section 3.104
4.0	September 14, 2017	Updated section 3.22
3.9	September 5, 2017	Added section 3.91 to 3.103
3.8	August 21, 2017	Added NV-Item ddms_BAND
3.7	August 10, 2017	Added NV-Item SpotifyClientID, CRCenable, and QuickAux
3.5	April 24, 2017	Added NV-Item outputfs

2. Introduction to Non-Volatile-Item

Non-Volatile (NV) item in LibreSync can be configured through **command line** or by editing the **env-item.xml** file, shared by Libre.

To configure the NV-Item, type the below command in the command line and **Reboot** the LS-Module to apply the changes.

Command Syntax	`#setenv <NV_item_name> <<value>>` `#reboot`

To know the value of the NV-Item set, type the below command in the command line.

Command Syntax	`#getenv <NV_item_name>`

There should be space between setenv and <NV_item_name> and between the <NV_item_name> and <<value>>.

To reset all the NV-Items to factory default values, type the below command in the command line.

Command Syntax	`#SetFacDefault`

To know all the NV-items values, type the below command in the command line.

Command Syntax	`#GetAllENV`

Example	To configure NV-item hostpresent	#setenv hostpresent 1 #reboot
	To Know the value of the NV-Item hostpresent.	#getenv hostpresent

3. Configuring Non-Volatile Item

3.1. Host Communication Over UART

NV-Item Name	hostpresent	
NV-Item Description	This NV-item enables / disables HOST-MCU and LUCI communication over URAT.	
Command Syntax	`#setenv hostpresent <<value>>` `#reboot`	
Value	**Example**	**Description**
1	`#setenv hostpresent 1` `#reboot`	Enables HOST-MCU and LUCI communication over UART.
0 (Default)	`#setenv hostpresent 0` `#reboot`	Disables HOST-MCU and LUCI communication over UART.

To know the current value of the NV-Item use the below command.

Command	`#getenv hostpresent`

3.2. Telnet

NV-Item Name	telnet	
NV-Item Description	This NV-Item enables / disables bidirectional interactive text-oriented TCP/IP communication with the LS-Enabled Device. Telnet PORT number is 23 (default).	
Command Syntax	`#setenv telnet <<value>>` `#reboot`	
Value	**Example**	**Description**
1	`#setenv telnet 1` `#reboot`	Enables TCP/IP communication
0 (Default)	`#setenv telnet 0` `#reboot`	Disables TCP/IP communication

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv telnet`

3.3. Network Interface

NV-Item Name	netif	
NV-Item Description	This NV-Item allows user to set the type of Network interface such as **Ethernet**, **Wi-Fi** or **Auto**. **Auto** - The LS-Sync software detects the network interface automatically, based on the connection available. Once the Auto detection is enabled Ethernet would get priority as network interface on Boot-Up.	
Command Syntax	`#setenv netif <<value>>` `#reboot`	
Value	**Example**	**Description**
`eth0`	`#setenv netif eth0` `#reboot`	Enables Ethernet interface
`wlan0 (Default)`	`#setenv netif wlan0` `#reboot`	Disables Wi-Fi interface
`auto`	`#setenv netif auto` `#reboot`	Enables auto detection of network interface

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv netif`

3.4. SSID of DDMS-Zone in SA-Mode

NV-Item Name	ddms_SSID
NV-Item Description	This NV-Item allows to edit the default SSID of the DDMS-Zone. Default SSID of the DDMS-Zone is **LibreSync**
Command Syntax	`#setenv ddms_SSID <<value>>` `#reboot`

Value	Example	Description
Text String	#setenv ddms_SSID NewName #reboot	Defines the new DDMS SSID name.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv ddms_SSID

3.5. DDMS-Zone Password in SA-Mode

NV-Item Name	ddms_password	
NV-Item Description	This NV-Item allows to edit the default password of the DDMS-Zone. Default password of the DDMS-Zone is **hello123**	
Command Syntax	#setenv ddms_password <<value>> #reboot	
Value	**Example**	**Description**
Text String	#setenv ddms_password hello123 #reboot	Sets the New password value.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv ddms_password

3.6. I2S LR-Clock

NV-Item Name	LRCK
NV-Item Description	This NV-Item allows to edit the frequencies of the I2S LR-Clock. For **LS6**, LR-Clock is supported at frequency of 44.1 KHz and 48KHz. For **LS5B / LS9,** LR-Clock is supported at frequency of 44.1 KHz, 48 KHz, 88.2 KHz, 96 KHz, 176.4 KHz, 192 KHz.
Command Syntax	#setenv LRCK <<value>> #reboot

Value	Example	Description	Module Applicable
44100 (Default)	#setenv LRCK 44100 #reboot	Sets the LR-Clock at 44.1 KHz frequency.	LS6, LS5B
48000	E	Sets LR-Clock at 48 KHz frequency.	LS6, LS5B
88200	#setenv LRCK 88200 #reboot	Sets LR-Clock at 88.2 KHz frequency.	LS5B
96000	#setenv LRCK 96000 #reboot	Sets LR-Clock at 96 KHz frequency.	LS5B
176400	#setenv LRCK 176400 #reboot	Sets LR-Clock at 176.4 KHz frequency.	LS5B
192000	#setenv LRCK 192000 #reboot	Sets LR-Clock at 192 KHz frequency.	LS5B

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv LRCK

3.7. I2S M-Clock

This NV-Item is not Applicable for LS9 module.

NV-Item Name	MCLK	
NV-Item Description	This NV-Item allows to edit the frequencies of the I2S M-Clock. M-Clock is supported at frequency of 12 MHz and 12.288 MHz.	
Command Syntax	#setenv MCLK <<value>> #reboot	
Value	**Example**	**Description**
12000000 (Default)	#setenv MCLK 12000000 #reboot	Sets the M-Clock at 12 MHz frequency.
12288000	#setenv MCLK 12288000 #reboot	Sets M-Clock at 12.288 MHz frequency.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv MCLK

3.8. ACPpresent

NV-Item Name	ACPpresent
NV-Item Description	This NV-Item enables / disables detection of the Apple Co-processor for ACP-certificate validation.
Command Syntax	#setenv ACPpresent <<value>> #reboot

Value	Example	Description
1	#setenv ACPpresent 1 #reboot	Indicates presence of ACP in hardware.
0 (Default)	#setenv ACPpresent 0 #reboot	Indicates absence of ACP in hardware

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv ACPpresent

3.9. airplay

NV-Item Name	airplay
NV-Item Description	NV-Item **airplay** enables / disables AirPlay functionality.
Command Syntax	#setenv airplay <<value>> #reboot

Value	Example	Description
1	#setenv airplay 1 #reboot	Enables AirPlay functionality.
0 (Default)	#setenv airplay 0 #reboot	Disables AirPlay functionality.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv airplay

3.10. Model

NV-Item Name	Model	
NV-Item Description	This NV-Item is used to set the model name for the speaker or the device. The model name can be any name of the user choice. The Maximum length of the model name is 63 characters. The NV-Item Model Name should not contain, Space or special characters except underscore "_".	
Command Syntax	`#setenv Model <<value>>` `#reboot`	
Value	**Example**	**Description**

`Text String`
(Default value LibreSync)
	`#setenv Model ModelNewName`
	`#reboot`
	(Model name of the LS-Enabled device is now set as ModelNewName)
		Allows to edit the Model Name.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv Model`

3.11. Manufacturer Name

NV-Item Name	Manufacturer	
NV-Item Description	This NV-Item is used to set the Manufacturer name for the Speaker or the device. The Manufacturer name can be any name of the user choice. The Maximum length of the Manufacturer name is 63 characters. The default Manufacturer Name for LS-Enabled speakers is Libre. You can change the Manufacturer name by editing the NV-Item **Manufacturer**.	
Command Syntax	`#setenv Manufacturer <<value>>` `#reboot`	
Value	**Example**	**Description**

Text String (Default value Libre)	#setenv Manufacturer ManufacturerNewName #reboot	Changes the Manufacturer Name as "ManufacturerNewName"

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv Manufacturer

3.12. Current Volume

NV-Item Name	current_volume
NV-Item Description	This NV-item enables the user to set the default volume levels for LS-enabled speakers on first power ON.
Command Syntax	#setenv current_volume <<value>> #reboot

Value	Example	Description
0-100% (Default value is 50%)	#setenv current_volume 50 #reboot	Sets the current volume as 50%.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv current_volume

3.13. SD-Card Play-Index

NV-Item Name	sdcard_playindex
NV-Item Description	This NV-item holds the Play-Index of the SD-Card.
Command Syntax	#setenv sdcard_playindex <<value>>

Value	Example	Description
0 (Default)	#setenv sdcard_playindex 0 #reboot	Sets the Play-Index of SD-Card as 0

To know the current value of the NV-Item use the below command.

Command	`#getenv sdcard_playindex`

3.14. WAC SSID

NV-Item Name	WAC_SSID
NV-Item Description	The default SSID for WAC / SAC is "**LSConfigure_xxxxxx**". Where, XXXXXX is last a 6 digit of the MAC id of the LS-Enabled speaker or device. You can change the SSID of the WAC / SAC by editing the NV-Item "**WAC_SSID**". There should be no space, and special characters are not allowed.
Command Syntax	`#setenv WAC_SSID <<value>>` `#reboot`

Value	**Example**	**Description**
`Text String (Default value is LSConfigure)`	`#setenv WAC_SSID NewSSIDName` `#reboot`	changes the SSID as "**NewSSIDName_xxxxxx**"

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv WAC_SSID`

3.15. X-MODEM Packet Size

NV-Item Name	xmodem_pkt_size
NV-Item Description	X-Modem Packet Size for transferring the HOST-MCU firmware from LS to HOST-MCU can be either 128 bytes or 1024 bytes.
Command Syntax	`#setenv xmodem_pkt_size <<value>>` `#reboot`

Value	**Example**	**Description**

128	#setenv xmodem_pkt_size 128 #reboot	To set the X-MODEM Packet Size at 128 bytes
1024 (Default)	#setenv xmodem_pkt_size 1024 #reboot	To set the X-MODEM Packet Size at 1024 bytes

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv xmodem_pkt_size

3.16. BTCLK (I2S Clock from Bluetooth Module)

NV-Item Name	BTCLK	
NV-Item Description	Generally, CODEC / DAC operates in I2S-Master Mode and supplies the I2S-Clock to I2S-Slaves like Bluetooth / LS Module. By using this NV-Item the system can be configured to operate such that, external (LSBT1) Bluetooth module can be configured as I2S-Master and provides the I2S-Clock. In this scenario LS-Module / CODEC operates in I2S-Slave Mode.	
Command Syntax	#setenv BTCLK <<value>> #reboot	
Value	**Example**	**Description**
0 (Default)	#setenv BTCLK 0 #reboot	Sets CODEC / DAC as I2S-Master
1	#setenv BTCLK 1 #reboot	Sets External LSBT1 Bluetooth Module as I2S-Master

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv BTCLK

3.17. ACP Sharing

NV-Item Name	AcpToLS
NV-Item Description	This NV-Item is used to enable or disable ACP Sharing between LS-Module and HOST-MCU.

	When ACP Sharing is disabled, there will be no reply on Message-Box #15 for the request by Host-MCU on Message-Box #14.
Command Syntax	`#setenv AcpToLS <<value>>` `#reboot`

Value	Example	Description
1(Default)	`#setenv AcpToLS 1` `#reboot`	ACP is connected to LS
0	`#setenv AcpToLS 0` `#reboot`	ACP is connected to HOST-MCU

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv AcpToLS`

3.18. Bluetooth Controller

NV-Item Name	BT_CONTROLLER
NV-Item Description	This NV-Item is used to select the type of Libre UI-Board or disable Bluetooth functionality support in LS-Modules.
Command Syntax	`#setenv BT_CONTROLLER <<value>>` `#reboot`

Value	Example	Description
1	`#setenv BT_CONTROLLER 1` `#reboot`	Defines the LSBT1 Bluetooth old UI-Board Type with digital audio interface. (LSBT1 with digital audio interface is not recommended for new designs.) This value is applicable for LS5B and LS6 module.
2	`#setenv BT_CONTROLLER 2` `#reboot`	**For LS6 and LS5B,** this value defines the LSBT1 Bluetooth new UI-Board Type with digital audio interface. (LSBT1 with digital audio interface is not recommended for new designs.)

		For LS9, this value uses customer BT MAC ID not programmed in OTP.
3	#setenv BT_CONTROLLER 3 #reboot	**For LS6 and LS5B,** this value Defines the LSBT1 Bluetooth New UI-Board Type with Analog audio interface. **For LS9,** this value reads the BT MAC ID from OTP, and uses the OTP programmed BT MAC ID.
0 (Default)	#setenv BT_CONTROLLER 0 #reboot	Disables LSBT1/BT interface

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv BT_CONTROLLER

3.19. HOST BAUDRATE

NV-Item Name	HOST_BAUDRATE
NV-Item Description	This NV-Item is used to define different UART BAUDRATE communication between LS module and external HOST-MCU. UART BAUDRATE supported in LS6 are 9600, 19200, 38400, 57600 (default) and 115200. UART BAUDRATE supported in LS9 are 9600, 19200, 38400, 57600 and 115200 (Default).
Command Syntax	#setenv HOST_BAUDRATE <<value>> #reboot

Value	**Example**	**Description**
57600 bps (Default)	#setenv HOST_BAUDRATE 57600 #reboot	UART BAUDRATE set as 57600 bps
9600 bps	#setenv HOST_BAUDRATE 9600 #reboot	UART BAUDRATE set as 9600 bps
19200 bps	#setenv HOST_BAUDRATE 19200 #reboot	UART BAUDRATE set as 19200 bps

38400 bps	#setenv HOST_BAUDRATE 38400 #reboot	UART BAUDRATE set as 38400 bps
115200 bps	#setenv HOST_BAUDRATE 115200 #reboot	UART BAUDRATE set as 115200 bps

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv HOST_BAUDRATE

3.20. BT Device Name

NV-Item Name	BT_DeviceName	
NV-Item Description	This NV-Item is used to modify the Bluetooth name of the speaker device. The maximum length of the device name is 20 characters.	
Command Syntax	#setenv BT_DeviceName <<value>> #reboot	
Value	**Example**	**Description**
Text String (Default value is LS_BT_Speaker)	#setenv BT_DeviceName LS_BT_SpeakerNewName #reboot	Modifies the Bluetooth name of the speaker device

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv BT_DeviceName

3.21. DLNA Connection Close

Setting DLNA_Conn_Closed NV-Item to '0' will **FAIL** the DLNA Certification.

NV-Item Name	DLNA_ConnClosed
NV-Item Description	This NV-Item is used to enable / disable the time gap between play-pause trigger. • Setting DLNA_ConnClosed to '0' • Setting DLNA_ConnClosed to '1'

Command Syntax	#setenv DLNA_ConnClosed <<value>> #reboot	
Value	**Example**	**Description**
0	#setenv DLNA_ConnClosed 0 #reboot	Trigger Play-Pause instantaneously.
1 (Default)	#setenv DLNA_ConnClosed 1 #reboot	Will provide a time gap (negligible) between Play-Pause trigger.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv DLNA_ConnClosed

3.22. Country

NV-Item Name	Country
NV-Item Description	This NV-Item is used to specify the Country Code of speaker device. Country code is used to state the Speaker device region. Speaker device region is required to abide by the Wi-Fi channel regulations of the region in which the device is present. For the list of Countries Supported and Channel Limitations see the table below.
Command Syntax	#setenv Country <<value>> #reboot Where, Value is the Country Code

Countries Supported and Channel Limitations in LS5B and LS6 Modules

Country	Country Code	Supported Channel
United States (Default)	US (Default)	1-11
Europe	EU	1-13
Japan	JP	1-13

Countries Supported and Channel Limitations in LS9 Modules

> **Note:** Customer can set same country code (For example, either GB or FR) for different EU countries, if the region/country have the same band range in Europe region.

Sl.No	Country	Country Code	Supported Channel in 2.4 GHz Band	Supported Channel in 5GHz Band
1	United Arab Emirates	AE	1-13	36-52,52-64,100-144,149-165
2	Argentina	AR	1-13	36-52,52-64,100-144,149-165
3	Austria	AT	1-13	36-52,52-64,100-140
4	Australia	AU	1-13	36-52,52-64,100-144,149-165
5	Barbados	BB	1-13	36-52,52-64,149-165
6	Belgium	BE	1-13	36-52,52-64,100-140
7	Bulgaria	BG	1-13	36-52,52-64,100-144,149-165
8	Brazil	BR	1-13	36-52,52-64,100-144,149-165
9	Canada	CA	1-13	36-52,52-64,149-165
10	Switzerland	CH	1-13	36-52,52-64,100-140
11	Chile	CL	1-13	36-52,52-64,149-165
12	China	CN	1-13	36-52,52-64,149-165
13	Colombia	CO	1-13	36-52,52-64,100-144,149-165
14	Costa Rica	CR	1-13	36-52,52-64,100-144,149-165
15	Czech Republic	CZ	1-13	36-52,52-64,100-140
16	Germany	DE	1-13	36-52,52-64,100-140
17	Denmark	DK	1-13	36-52,52-64,100-140
18	Egypt	EG	1-13	36-52,52-64,149-165
19	France	FR	1-13	36-52,52-64,100-140

Sl.No	Country	Country Code	Supported Channel in 2.4 GHz Band	Supported Channel in 5GHz Band
20	United Kingdom	GB	1-13	36-52,52-64,100-140
21	Greece	GR	1-13	36-52,52-64,100-140
22	Croatia	HR	1-13	36-52,52-64,100-140
23	Hong Kong	HK	1-13	36-52,52-64,100-144,149-165
24	Hungary	HU	1-13	36-52,52-64,100-140
25	Italy	IT	1-13	36-52,52-64,100-140
26	Japan	JP	1-13	36-52,52-64
27	Mexico	MX	1-13	36-52,52-64
28	Netherlands	NL	1-13	36-52,52-64,100-140
29	Norway	NO	1-13	36-52,52-64,100-140
30	New Zealand	NZ	1-13	36-52,52-64,100-144,149-165
31	Poland	PL	1-13	36-52,52-64,100-140
32	Portugal	PT	1-13	36-52,52-64,100-140
33	Puerto Rico	PR	1-13	36-52,52-64,100-144,149-165
34	Russian Federation	RU	1-13	36-52,52-64,132-144,149-165
35	Sweden	SE	1-13	36-52,52-64,100-140
36	Taiwan, Province of China	TW	1-13	56-64,149-165
37	Turkey	TR	1-13	36-52,52-64
38	United States (Default)	US (Default)	1-11	36-52,52-64,100-144,149-165
39	South Africa	ZA	1-13	36-52,52-64,100-140
40	Zimbabwe	ZW	1-13	36-52,52-64,100-140

Sl.No	Country	Country Code	Supported Channel in 2.4 GHz Band	Supported Channel in 5GHz Band
41	Singapore	SG	1-13	36-48, 52-64, 100-140, 149-161,
42	India	IN	1-13	36-48, 52-64, 100-140, 149-161
43	Qatar	QA	1-13	36-48, 52-64, 100-140, 149-161
44	Saudi Arabia	SA	1-13	36-48, 52-64, 100-140, 149-161,
45	Korea	KR	1-13	36,40,44,48,52,56,60,64,100,104,108, 112,116,120,124,128,132,136, 140,149,153,157,161,165

Value	Example	Description
US	#setenv Country US #reboot	Specifies the Country Code of speaker device as United States
EU (LS5B / LS6 Only)	#setenv Country EU #reboot	Specifies the Country Code of speaker device as Europe
JP	#setenv Country JP #reboot	Specifies the Country Code of speaker device as Japan
FR (LS9 Only)	#setenv Country FR #reboot	Specifies the Country Code of speaker device as France
GB (LS9 Only)	#setenv Country GB #reboot	Specifies the Country Code of speaker device as United Kingdom.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv Country

3.23. Serial Number

NV-Item Name	Serial_num

NV-Item Description	This NV-Item indicates the serial number of the speaker device. Serial number can be of maximum length of 15 characters.
Command Syntax	`#setenv Serial_num <<value>>` `#reboot`

Value	**Example**	**Description**
`Alpha Numeric` `(Default value is LS1.5)`	`#setenv Serial_num 1234` `#reboot`	Defines the serial number of the speaker device. This serial number is used for authentication of the iOS device.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv Serial_num`

3.24. Model Number

NV-Item Name	Model_num
NV-Item Description	This NV-Item indicates the Model of the speaker device. Model Number can be of maximum length of 15 characters.
Command Syntax	`#setenv Model_num <<value>>` `#reboot`

Value	**Example**	**Description**
`Alpha Numeric` `(Default value is LS1.5)`	`#setenv Model_num 4567` `#reboot`	Defines the model number of the speaker device By default Serial Number is LS1.5

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv Model_num`

3.25. Hardware Version

NV-Item Name	Hardware_version

NV-Item Description	This NV-Item indicates the hardware used in the speaker device. Hardware version can be of maximum length of 15 characters.
Command Syntax	#setenv Hardware_version <<value>> #reboot

Value	**Example**	**Description**
Alpha Numeric (Default value is LS1.5)	#setenv Hardware_version bncm #reboot	Defines the Hardware Version of the speaker device.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv Hardware_version

3.26. Firmware Download XML

NV-Item Name	fwdownload_xml
NV-Item Description	This NV-Item 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.
Command Syntax	#setenv fwdownload_xml <<value>> #reboot

Value	**Example**
Text String URL	#setenv fwdownload_xml http://172.16.2.103/share/firmware/LS5B/firmware_download.xml #reboot

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv Firmware_version

3.27. Spotify APP Key

NV-Item Name	SpotifyAppKey
NV-Item Description	NV-Item SpotifyAppKey is used to store the unique application key to access the Spotify Library. LS-enabled speaker device has the Libre's application key as the default value. Replace the Application key with your own application key provided by Spotify. The maximum size of the application key is 1024 characters. By default Spotify Application key is 0147A183DEFC792085C3D545471BEF4127D2F23F12619CFDA11DAB7E1E6A86C86662677499C52AD88E684AE85A8DE63B71CD5396AEAB79AF407B71012ACD5333B05F59E669D7D773740999941EFE938DDC3E7A8E4307B381A9B46EEB5BE7531B7C206D4A8FD516EABAF6F9722D5BAD40E015189849FE0475DB249C8DD48D17B34A69D4CD371769E1D2389EA4ED8DC2E8FEE9F4D5D12DE053DA58810414C55B338D685593F99E80BD4AF1CE632158B79A77EAC63A31DB697BB5F34562AFA7F4267A34C6B9FC6C7A4B945F44F2BD8D4290EC33C730E586A27C5BA1AABB0DF956F6412DE17BEE1AF849C36FF03DB8205C370CDB47358E55804F9771BEE3EBC07792D36512BA7D2B6CDC5F6939A78AF920A4C4DD09FFFC6D0F03DFA16721AC92F61B84C3845C847920E9518F5E3F4D7E2654CEFE0BD4193F284B58A9184683C450C111
Command Syntax	#setenv SpotifyAppKey <<value>> #reboot

Value	Example	Description
Alpha Numeric	#setenv SpotifyAppKey 0147A183DEFC792085C3D545471BEF4127D2F23F12619CFDA11DAB7E1E6A86C86662677499C52AD88E684AE85A8DE63B71CD5396AEAB79AF407B71012ACD5333B05F59E669D7D773740999941EFE938DDC3E7A8E4307B381A9B46EEB5BE7531B7C206D4A8FD516EABAF6F9722D5B #reboot	Stores the Spotify Application Key

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv SpotifyAppKey

3.28. External DAC

This NV-Item is not Applicable for LS9 module.

NV-Item Name	ExternalDAC	
NV-Item Description	NV-Item ExternalDAC is used to define who configures the CODEC. That is, if CODEC is configured by LS or by HOST-MCU.	
Command Syntax	`#setenv ExternalDAC <<value>>`	
Value	**Example**	**Description**
0 (Default)	`#setenv ExternalDAC 0` `#reboot`	CODEC is configured by LS, and only LS can take care of the volume control.
1	`#setenv ExternalDAC 1` `#reboot`	CODEC is controlled by HOST-MCU, and it should take care of the volume control.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv ExternalDAC`

3.29. Tidal User Name

NV-Item Name	TidalUserName	
NV-Item Description	NV-Item TidalUserName is used to set the login credentials to access Tidal music service.	
Command Syntax	`#setenv TidalUserName <<value>>` `#reboot`	
Value	**Example**	**Description**
Alpha Numeric	`#setenv TidalUserName xyz@test.com` `#reboot`	Configures the user name for Tidal

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv TidalUserName`

3.30. Tidal Password

NV-Item Name	TidalUserPassword	
NV-Item Description	NV-Item TidalPassrowd is used to set the login credentials to access Tidal music service.	
Command Syntax	#setenv TidalUserPassword <<value>> #reboot	
Value	**Example**	**Description**
Alpha Numeric	#setenv TidalUserPassword abcd123 #reboot	Configures the password for Tidal

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv TidalUserPassword

3.31. Dezeer User Name

NV-Item Name	DezeerUserName	
NV-Item Description	NV-Item DezeerUserName is used to set the login credentials to access Dezeer music service.	
Command Syntax	#setenv DezeerUserName <<value>> #reboot	
Value	**Example**	**Description**
Alpha Numeric	#setenv DezeerUserName xyz@test.com #reboot	Configures the user name for Dezeer

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv DezeerUserName

3.32. Dezeer Password

NV-Item Name	DezeerPaassword

NV-Item Description	NV-Item DezeerPassword is used to set the login credentials to access Dezeer music service.	
Command Syntax	`#setenv DezeerPaassword <<value>>` `#reboot`	
Value	**Example**	**Description**
`Text value`	`#setenv DezeerUserPassword abcd123` `#reboot`	Configures the password for Dezeer

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv DezeerPassword`

3.33. Multiple SSID Enabled

NV-Item Name	MultipleSSIDEnabled	
NV-Item Description	NV-item **MultipleSSIDEnabled** is to enable the LS device to store **Eight** different network's information in Home-Network mode. If the device lose network, it would scan for earlier connected networks and then connects to the network with highest signal strength. The details of each network's SSID and Passphrase are stored in **HN_SSID_x** and **HN_PASSPHRASE_x** respectively. The device starts storing the information from HN_SSID_7 till HN_SSID_0 and then erases the oldest i.e., HN_SSID_7 to write the new network details.	
Command Syntax	`#setenv MultipleSSIDEnabled <<value>>` `#reboot`	
Value	**Example**	**Description**
`1`	`#setenv MultipleSSIDEnabled 1` `#reboot`	Enables Multiple SSID
`0 (Default)`	`#setenv MultipleSSIDEnabled 0` `#reboot`	Disables Multiple SSID

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv MultipleSSIDEnabled

3.34. Append MAC ID

NV-Item Name	append_macid
NV-Item Description	NV-Item **append_macid** allows the device to suffix the last six digits of P2P MAC ID after the device name for the Stand Alone Mode. If the NV-item is enabled, LS device in Stand Alone mode would be discovered as "**LibreSyncxxxxxx**". For LS5B and LS6 modules: Default value for the NV-Item is true - enabled. For LS9 modules: Default value for the NV-Item is false - disabled.
Command Syntax	#setenv append_macid <<value>> #reboot

Value	Example	Description
true	#setenv append_macid true #reboot	Enables append_macid
false	#setenv append_macid false #reboot	Disables append_macid

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv append_macid

3.35. HOST UI Enabled

NV-Item Name	HostUiEnabled
NV-Item Description	NV-Item HostUiEnabled is used to send the display UI information such as play view, elapsed time to HOST-MCU over UART.
Command Syntax	#setenv HostUiEnabled <<value>> #reboot

Value	Example	Description

0 (Default)	#setenv HostUiEnabled 0	Disables UI display information
1	#setenv HostUiEnabled 1	Enables UI display information

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv HostUiEnabled

3.36. Scene Name

NV-Item Name	Scene_Name	
NV-Item Description	NV-Item Scene_Name is used to edit the default name of the scene created. The maximum length of the name is 128 Characters	
Command Syntax	#setenv Scene_Name MyScene <<value>> #reboot	
Value	**Example**	**Description**
Text value Default value is MyGroup	#setenv Scene_Name JamHouse #reboot	Modifies the Scene Name

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv Scene_Name

3.37. I2S Master

This NV-Item is Applicable only for LS6 module.

NV-Item Name	I2S_Master
NV-Item Description	NV-Item I2S_Master is used to configure LS6 as I2S master or I2S slave. Setting the value to 1 configures LS6 as I2S Master, and Setting the value to 0 configures LS6 as I2S Slave.

Command Syntax	#setenv I2S_Master <<value>> #reboot

Value	Example	Description
1	#setenv I2S_Master 1 #reboot	Configures LS6 as I2S Master
0	#setenv I2S_Master 0 #reboot	Configures LS6 as I2S Slave

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv I2S_Master

3.38. DirectPrefixSet

NV-Item Name	DirectPrefixSet
NV-Item Description	This NV-Item is used to either enable or disable appending the SSID of SA-Group, with "Direct-LB" as a prefix. The default SSID of LS-Enabled device in SA-Mode is LibreSync. When the LS-Enabled device in SA-Group broadcasts the DDMS SSID. • If the NV-Item is enabled, then the SSID of the Libre-Enabled device in SA-Group is prefixed with "Direct-LB" and will be broadcasted as "Direct-LBLibreSync". • If the NV-Item is disabled, then the SSID of the Libre-Enabled device in SA-Group is broadcasted as LibreSync only.
Command Syntax	#setenv DirectPrefixSet <<value>> #reboot

Value	Example	Description
enabled	#setenv DirectPrefixSet enabled #reboot	Enables appending the SSID of SA-Group
disabled (Default)	#setenv DirectPrefixSet disabled #reboot	Disables appending the SSID of SA-Group

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv DirectPrefixSet`

3.39. TIDAL Sound Quality

NV-Item Name	TIDALSoundQuality
NV-Item Description	Music from TIDAL can be streamed at High Quality Audio. Audio streaming in High Quality enables the user to stream music at 320 kbps rate, otherwise the music is streamed at 96 kbps rate. •Set the value as HIGH, to stream from tidal at AAC 320 Kbps rate. •Set the value as NORMAL, to stream from tidal at HE AAC 196 Kbps rate.
Command Syntax	`#setenv TIDALSoundQuality <<value>>`

Value	**Example**	**Description**
`High (Default)`	`#setenv TIDALSoundQuality HIGH` `#reboot`	Streams music from Tidal at High Quality.
`NORMAL`	`#setenv TIDALSoundQuality NORMAL` `#reboot`	Streams music from Tidal at Normal range

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv TIDALSoundQuality`

3.40. vTunerLoginURL

NV-Item Name	vTunerLoginURL
NV-Item Description	NV-Item vTunerLoginURL contains the Login URL for vTuner. Customers have to type in their own vTunerLoginURL. By default, the URL stored in this NV-Item is Libre's Login URL.
Command Syntax	`#setenv vTunerLoginURL <<value>>`

Value	Example
Text value	#setenv vTunerLoginURL http://demolibrewireless.vtuner.com/setupapp/demolibrewireless/asp/browsexml/loginXML.asp? #reboot

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv vTunerLoginURL

3.41. vTunerLoginURLBackUp

NV-Item Name	vTunerLoginURLBackUp
NV-Item Description	NV-Item vTunerLoginURLBackUp contains the Back Up Login URL for vTuner. This URL is used o Login to URL if the Login URL fails due to some reasons. Customers have to type in their own vTunerLoginURLBackUp. By default, the URL stored in this NV-Item is Libre's BackUp Login URL.
Command Syntax	#setenv vTunerLoginURLBackUp <<value>>

Value	Example
Default Libre's BackUp Login URL	#setenv vTunerLoginURLBackUp http://demolibrewireless2.vtuner.com/setupapp/demolibrewireless/asp/browsexml/loginXML.asp? #reboot

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv vTunerLoginURLBackUp

3.42. vTunerSearchURL

NV-Item Name	vTunerSearchURL

NV-Item Description	NV-Item vTunerSearchURL contains the Search URL provided by vTuner. Customers have to type in their own Search URL for vTuner. By default, the URL stored in this NV-Item is Libre's vTuner Search URL.
Command Syntax	`#setenv vTunerSearchURL <<value>>`

Value	**Example**
`Text value`	`#setenv vTunerSearchURL` http://demolibrewireless.vtuner.com/setupapp/demolibrewireless/asp/browsexml/search.asp?sSearchtype=2 #reboot

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv vTunerSearchURL`

3.43. vTunerSearchURLBackUP

NV-Item Name	vTunerSearchURLBackUp
NV-Item Description	NV-Item vTunerSearchURLBackUp contains the BackUp Search URL provided by vTuner. This URL is used if the Search URL fails due to some reasons. Customers have to type in their own BackUp Search URL for vTuner. By default, the URL stored in this NV-Item is Libre's vTuner BackUp Search URL.
Command Syntax	`#setenv vTunerSearchURLBackUp <<value>>`

Value	**Example**
`Text value`	`#setenv vTunerSearchURLBackUp` http://dmolibrewireless2.vtuner.com/setupapp/demolibrewireless/asp/browsexml/search.asp?sSearchtype=2 #reboot

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv vTunerSearchURLBackUp`

3.44. BlowfishKey

NV-Item Name	BlowfishKey
NV-Item Description	NV-Item BlowfishKey contains the BlowfishKey provided by vTuner. Customers have to enter their own BlowfishKey provided by Vtuner. By default, the BlowfishKey stored is the Libre BlowfishKey for vTuner.
Command Syntax	`#setenv BlowfishKey <<value>>`

Value	Example
Text value	`#setenv BlowfishKey A126E09B21A81F073E8F85B63C53A062` `#reboot`

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv BlowfishKey`

3.45. BlowfishInitialVector

NV-Item Name	BlowfishInitialVector
NV-Item Description	NV-Item BlowfishInitialVector contains the BlowfishInitialVector provided by vTuner. Customers have to enter their own BlowfishInitialVector provided by Vtuner. By default, the BlowfishInitialVector stored is the Libre BlowfishInitialVector for vTuner.
Command Syntax	`#setenv BlowfishInitialVector <<value>>`

Value	Example	Description
Text value	`#setenv BlowfishInitialVector E87FA126B02D72F4` `#reboot`	Allows you to save BlowfishInitialVector provided by vTuner

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv BlowfishInitialVector`

3.46. vTunerTokenURLBackUP

NV-Item Name	vTunerTokenURLBackUp
NV-Item Description	NV-Item vTunerTokenURLBackUp contains the BackUp Token URL for vTuner. This URL is used if the Token URL fails due to some reasons. Customers have to type in their own BackUp Token URL for vTuner. By default, the URL stored in this NV-Item is Libre's BackUp Token URL.
Command Syntax	`#setenv vTunerTokenURLBackUp <<value>>`

Value	Example
Text value	`#setenv vTunerTokenURLBackUp http://demolibrewireless2.vtuner.com/setupapp/demolibrewireless/asp/browsexml/loginXML.asp?token=0` `#reboot`

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv vTunerTokenURLBackUp`

3.47. vTunerTokenURL

NV-Item Name	vTunerTokenURL
NV-Item Description	NV-Item vTunerTokenURL contains the Token URL for vTuner. On response of this URL customers will receive a token number which will be used for encryption and decryption of mac Address with Blowfish key and BlowfishInitialVector. Customers have to type in their own Token URL for vTuner. By default, the URL stored in this NV-Item is Libre's vTuner TokenURL.
Command Syntax	`#setenv vTunerTokenURL <<value>>`

Value	Example

Text value	#setenv vTunerTokenURL http://demolibrewireless.vtuner.com/setupapp/demolibrewireless/asp/browsexml/loginXML.asp?token=0 #reboot

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv vTunerTokenURL

3.48. customer

NV-Item Name	customer
NV-Item Description	NV-Item customer is used to update the name of the customer. Default value for the NV-Item is libre.
Command Syntax	#setenv customer <<value>>

Value	**Example**
Text value	#setenv customer libre #reboot

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv customer

3.49. ShareTimeout

NV-Item Name	ShareTimeout
NV-Item Description	NV-Item "ShareTimeout" is used to set the duration for which the Share-Mode is active. After the timeout Share-Mode will be disabled. Duration defined should be a non-zero value. Default ShareTimeout for LS5B modules is 420 seconds.

	Default ShareTimeout for LS9 modules is 7 minutes. Note: This is not applicable for LS6 modules.
Command Syntax	`#setenv ShareTimeout <<value>>`

Value	**Example**
Time in minutes (For LS9)	`#setenv ShareTimeout 7` `#reboot`
Time in seconds (For LS5B)	`#setenv ShareTimeout 420` `#reboot`

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv ShareTimeout`

3.50. SPDIF

Note: This NV-Item is Applicable only for LS9 module.

NV-Item Name	spdif
NV-Item Description	NV-Item “spdif” is used to set the SPDIF audio output format.
Command Syntax	`#setenv spdif <<value>>`

Value	**Example**	
0 (Default)	`#setenv spdif 0` `#reboot`	Disables the SPDIF output. When SPDIF NV-Item is disabled, I2S will be the default audio output format.
1	`#setenv spdif 1` `#reboot`	Enables SPDIF output.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv spdif`

Note: At any given time, only one audio output format is active (SPDIF or I2S).

3.51. sdcardEnable

Note: This NV-Item is not applicable for LS9 module.

NV-Item Name	sdcardEnable	
NV-Item Description	NV-Item "sdcardEnable" is used to enable/disable the SD-Card functionality	
Command Syntax	`#setenv sdcardEnable <<value>>`	
Value	**Example**	
0	`#setenv sdcardEnable 0` `#reboot`	Disables the SD Card output. LS-HOST will use the SD-Card IO pins as GPIO for handling any feature supported in LS_HostConfig.xml according to the customer requirement.
1 (Default)	`#setenv sdcardEnable 1` `#reboot`	Enables SD-Card output. LS-HOST will not initialize the SD-Card IO pins and SD-Card can be used directly as an audio source for playback.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv sdcardEnable`

3.52. LSHOST

Note: This NV-Item is not applicable for LS9 module.

NV-Item Name	LSHOST
NV-Item Description	NV-Item "LSHOST" is used to enable/disable LSHOST functionality

Command Syntax	#setenv LSHOST <<value>>	
Value	**Example**	
0 (Default)	#setenv LSHOST 0 #reboot	Disables LSHOST functionality.
1	#setenv LSHOST 1 #reboot	Enables LSHOST functionality for WAC / SAC (SW5) button in LS-EVK.
2	#setenv LSHOST 2 #reboot	To use customized LS-HOST. Using customized LS-HOST requires **LS_HostConfig.xml** to be customized. LS_HostConfig.xml file can be configured and added to the **lsimage** using **Software Customization Kit**.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv LSHOST

3.53. fwinternet_host

NV-Item Name	fwinternet_host	
NV-Item Description	NV-Item fwinternet_host is used to enable or disable the error notification to HOST-MCU for Firmware Update from internet. Default value for the NV-Item is 0 - disabled.	
Command Syntax	#setenv fwinternet_host <<value>>	
Value	**Example**	**Description**
0 (Default)	#setenv fwinternet_host 0 #reboot	Disables error-notifications to HOST-MCU, for confirmation to proceed with Firmware Update from internet
1	#setenv fwinternet_host 1 #reboot	Enables error-notifications to HOST-MCU, for confirmation to proceed with Firmware Update from internet

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv fwinternet_host

3.54. GoogleCast

This NV-item is applicable for LS9 Module Only.

NV-Item Name	GoogleCast
NV-Item Description	NV-Item GoogleCast is used to enable or disable the GCAST playback in the module Default value for the NV-Item is true - enabled.
Command Syntax	#setenv GoogleCast <<value>>

Value	Example	Description
true (Default)	#setenv GoogleCast true #reboot	Enables GCAST playback on the module. Only Aux, BT, Spotify Single speaker, USB, DMR & DMP sources and GCast, is enabled. Music services such as vTuner, Tidal, Deezer, and TuneIn is supported only from GCast APP.
false	#setenv GoogleCast false #reboot	Disables GCAST playback on the module. All Music services are enabled (vTuner, Tidal, Deezer, TuneIn, Qplay, and Spotify) and is supported from Native APP GCast is disabled. DDMS Spotify is enabled.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv GoogleCast

3.55. DMRDisable

NV-Item Name	DMRDisable	
NV-Item Description	NV-Item DMRDisable is used to enable or disable DMR playback in the module. Default value for the NV-Item is 0 – DMR Playback is enabled.	
Command Syntax	#setenv DMRDisable <<value>>	
Value	**Example**	**Description**
0 (Default)	#setenv DMRDisable 0 #reboot	Enables DMR playback on the module.
1	#setenv DMRDisable 1 #reboot	Disables DMR playback on the module.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv DMRDisable

3.56. SpotifyEnabled

This NV-item is applicable for LS9 Module Only.

NV-Item Name	SpotifyEnabled
NV-Item Description	NV-Item SpotifyEnabled is used to enable or disable Spotify playback in the module. Default value for the NV-Item is 1 - Enable.
Command Syntax	#setenv SpotifyEnabled <<value>>

Value	Example	Description
1 (Default)	#setenv SpotifyEnabled 1 #reboot	Enables Spotify playback on the module.
0	#setenv SpotifyEnabled 0 #reboot	Disables Spotify playback on the module.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv SpotifyEnabled

3.57. OTA Update Link

NV-Item Name	otaupdate_link
NV-Item Description	This NV-item will contain the link of OTA package which will be mentioned in the internet upgrade xml for <otapackage> filed.
Command Syntax	#setenv otaupdate_link <<value>> #reboot

Value	Example
Text String URL	#setenv otaupdate_link <<URL of the OTA file "**application.zip**">> #reboot

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv otaupdate_link

3.58. cast_version

NV-Item Name	cast_version
NV-Item Description	Indicates the Cast-Firmware used in the speaker device. This Field will determine the current Build version of the LS9 Image. During LS9 internet upgrade, device will compare the present build version (saved in "cast_version" env item) with <fw_version> of the

	XML file, and if the <fw_version> is more than that of present build version, then Internet upgrade will commence.
Command Syntax	`#setenv cast_version <<value>>` `#reboot`

Value	**Example**
`Alpha Numeric`	`#setenv cast_version p0000` `#reboot`

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv cast_version`

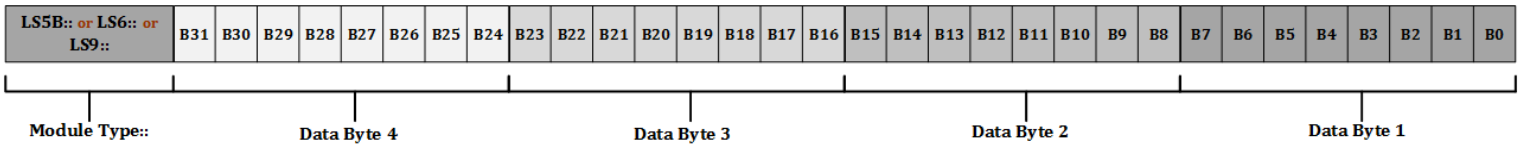
3.59. appsourcelist

NV-Item Name	appsourcelist
NV-Item Description	NV-Item "**appsourcelist**" is used to define the device type and supported audio source for the device. The **appsourcelist definition** is sent to the APP in the M-SEARCH message. APP will receive M-SEARCH message from all the LS-Enabled devices in the network. APP will display the source for each LS-Enabled device based on the Value defined for this NV-Item. Local Content as a source is enabled by default and cannot be disabled. **xxxxxxxx** should always be Hex value.
Command Syntax	#setenv appsourcelist <<ModuleType::xxxxxxxx>> Eg: #setenv appsourcelist LS9::FFFFFFFF

ModuleType: (one of the value)

- LS5B:: or
- LS6:: or
- LS9::

Format



Description

Bit Position	Source	Enable / Disable Source
B0	Reserved	0 = Disable 1= Enable
B1	Reserved	0 = Disable 1= Enable
B2	DMP / Network Devices	0 = Disable 1= Enable
B3	Reserved	0 = Disable 1= Enable
B4	USB	0 = Disable 1= Enable
B5	Reserved	0 = Disable 1= Enable
B6	Melon	0 = Disable 1= Enable
B7	vTuner	0 = Disable 1= Enable
B8	TuneIn	0 = Disable 1= Enable
B9	Miracast	0 = Disable 1= Enable
B10	Reserved	0 = Disable 1= Enable
B11	Reserved	0 = Disable 1= Enable
B12	Reserved	0 = Disable 1= Enable
B13	Line-IN (Aux-In)	0 = Disable 1= Enable
B14	Reserved	0 = Disable 1= Enable
B15	Reserved	0 = Disable 1= Enable

Bit Position	Source	Enable / Disable Source
B16	Reserved	0 = Disable 1= Enable
B17	Reserved	0 = Disable 1= Enable
B18	Bluetooth	0 = Disable 1= Enable
B19	Reserved	0 = Disable 1= Enable
B20	Deezer	0 = Disable 1= Enable
B21	Tidal	0 = Disable 1= Enable
B22	Favorites	0 = Disable 1= Enable
B23	Reserved	0 = Disable 1= Enable
B24	Reserved	0 = Disable 1= Enable
B25	Can be Customized	0 = Disable 1= Enable
B26	Can be Customized	0 = Disable 1= Enable
B27	AVS	0 = Disable 1= Enable
B28	Can be Customized	0 = Disable 1= Enable
B29	Can be Customized	0 = Disable 1= Enable
B30	Can be Customized	0 = Disable 1= Enable
B31	Can be Customized	0 = Disable 1= Enable

Example

If **Line-IN (Aux-In)** and **Deezer** to be enabled as source in the LS5B device, then the data format of the value will be as below

For LS5B device:

LS5B::00000000 00010000 00100000 00000000

That is, "LS5B::00102000 (in HEX)

3.60. Album Art Size

NV-Item Name	AlbumArtMaxSizeKB
NV-Item Description	NV-Item **AlbumArtMaxSizeKB** defines the size of the album art. The maximum album art size supported in LibreSync is 2048 KB.
Command Syntax	`#setenv AlbumArtMaxSizeKB <<value>>` `#reboot`

Value	**Example**
`Numeric`	`#setenv AlbumArtMaxSizeKB 2048` `#reboot`

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv AlbumArtMaxSizeKB`

3.61. IPADDR

NV-Item Name	IPADDR
NV-Item Description	This NV-Item is used to know the IP address of the LS-Device configured to the network. NV-Item can be read by the HOST-MCU using Message-Box 208.
Command Syntax	`#setenv Read IPADDR` `#reboot`

Example
`#setenv Read IPADDR 192.168.1.1` `#reboot`

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv IPADDR`

3.62. Disable Ethernet Interface

NV-Item Name	disable_eth_phy	
NV-Item Description	This NV-item is use to disable Ethernet Interface, so as to reduce the power consumed by the ETH controller.	
Command Syntax	`#setenv disable_eth_phy <<value>>` `#reboot`	
Value	**Example**	**Description**
`0 (Default)`	`#setenv disable_eth_phy 0` `#reboot`	Ethernet Interface is Up.
`1`	`#setenv disable_eth_phy 1` `#reboot`	Disables Interface is Down.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv IPADDR`

3.63. CastSetup

NV-Item Name	CastSetup	
NV-Item Description	This NV-item is used to enable or disable the network setup using GoogleCast APP.	
Command Syntax	`#setenv CastSetup <<value>>` `#reboot`	
Value	**Example**	**Description**
`true`	`#setenv CastSetup true` `#reboot`	GoogleCast APP should be used to configure GCast enabled LS-Devices to network.
`false (Default)`	`#setenv CastSetup false` `#reboot`	GoogleCast APP cannot be used to configure GCast enabled LS-Devices to network.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv CastSetup`

3.64. ProductReleaseTrack

NV-Item Name	ProductReleaseTrack
NV-Item Description	This NV-item is used to define if, the product is in certification process or is ready for production.

Value	**Description**
`beta-channel`	This value should be set when the product is in certification stage.
`stable-channel ,`	This value should be set when the product is ready for production.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv ProductReleaseTrack`

3.65. ProductBuildType

NV-Item Name	ProductBuildType
NV-Item Description	This NV-item defines the type of Build in the product. ProductBuildType NV-item is interlinked with NV-Item ProductReleaseTrack, Values are set based on the values of the NV-Item ProductReleaseTrack.

Value	**Description**
`BUILD_BETA`	This value should be set when the product is in certification stage.

BUILD_PROD	This value should be set when the product is ready for production.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv ProductBuildType

3.66. lsdPollTimeOut

NV-Item Name	lsdPollTimeOut
NV-Item Description	NV-Item "lsdPollTimeOut" is used by client devices to detect the absence of Master. If there is no communication between Master and Client during the specified time, then the client enters Free state. • TimeOut duration should be mentioned in seconds. • Value set as '0' indicates infinite timeout, that is, client will never free itself from Master. • Minimum TimeOut duration is 20 seconds. • Any value less than 20 seconds will be considered as 20 seconds.
Command Syntax	#setenv lsdPollTimeOut <<value>>

Value	**Example**
Time in seconds	#setenv lsdPollTimeOut 20 #reboot

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv lsdPollTimeOut

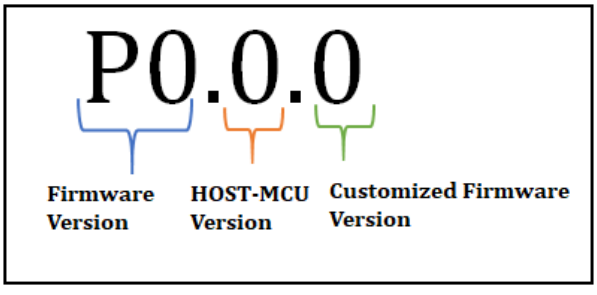
3.67. PlayerState

NV-Item Name	PlayerState	
NV-Item Description	NV-item PlayerState is used to define if the LS-enabled speaker is in Free state, or is a Master, or is a Slave.	
Command Syntax	#setenv PlayerState <<value>> #reboot	
Value	**Example**	**Description**
0 (Default)	#setenv PlayerState 0 #reboot	Sets Speaker as Free
1	#setenv PlayerState 1 #reboot	Sets Speaker as Master
2	#setenv PlayerState 2 #reboot	Sets Speaker as Slave

To know the current value of the NV-Item use the below command.

Command	#getenv PlayerState

3.68. FwVersion

NV-Item Name	FwVersion
NV-Item Description	NV-item FwVersion is used to display the product firmware version number. Maximum range is 128 bytes and is always an Alpha Numeric number. The default value is p0.0.0; where, 
Command Syntax	#setenv FwVersion <<value>> #reboot

To know the current value of the NV-Item use the below command.

Command	#getenv FwVersion

3.69. MCUVersion

NV-Item Name	MCUVersion	
NV-Item Description	NV-item MCUVersion is used to display the external HOST-MCU firmware version number. Maximum range is 128 bytes and is always an integer.	
Command Syntax	#setenv MCUVersion <<value>> #reboot	
Value	**Example**	**Description**
Numeric (Default value is 0)	#setenv MCUVersion 0 #reboot	Indicates the External HOST-MCU firmware version in the speaker

To know the current value of the NV-Item use the below command.

Command	#getenv MCUVersion

3.70. CUSTVersion

NV-Item Name	CUSTVersion	
NV-Item Description	NV-item CUSTVersion is used to display the customized firmware version number, for the various product models. Maximum range is 128 bytes and is always a integer.	
Command Syntax	#setenv CUSTVersion <<value>> #reboot	
Value	**Example**	**Description**
Numeric (Default value is 0)	#setenv CUSTVersion 0 #reboot	Indicates the customized firmware version in the speaker

To know the current value of the NV-Item use the below command.

Command	#getenv CUSTVersion

3.71. Brand

This NV-item is applicable for LS9 Module Only.

NV-Item Name	Brand	
NV-Item Description	NV-item Brand is used to display the Brand Name of the customer. Default Value is LIBRE. This is used mainly used for Spotify certification purposes.	
Command Syntax	#setenv Brand <<value>> #reboot	
Value	**Example**	**Description**
Text String	#setenv Brand LIBRE #reboot	Indicates the Brand of the speaker

To know the current value of the NV-Item use the below command.

Command	#getenv Brand

3.72. ProductType

This NV-item is applicable for LS9 Module Only.

NV-Item Name	ProductType
NV-Item Description	NV-item ProductType describes the type of audio product. Default value is WIFI Speaker Platform.

Command Syntax	`#setenv ProductType <<value>>` `#reboot`

Value	Example	Description
`Text String`	`#setenv ProductType WIFI Speaker Platform` `#reboot`	Indicates the Product Type

To know the current value of the NV-Item use the below command.

Command	`#getenv Product Type`

3.73. ProductName

This NV-item is applicable for LS9 Module Only.

NV-Item Name	ProductName	
NV-Item Description	This NV-Item states the name of the product. Default name is LS9 Platform.	
Command Syntax	`#setenv ProductName <<value>>` `#reboot`	
Value	**Example**	**Description**
`Text String`	`#setenv ProductName LS9 Platform` `#reboot`	States name of the product

To know the current value of the NV-Item use the below command.

Command	`#getenv ProductName`

3.74. FriendlyName

NV-Item Name	FriendlyName
NV-Item Description	This NV-Item is used to display the product friendly name in the device webpage. Default value is Libre.

	There should be no space, capital letters, and special characters are not allowed.
Command Syntax	`#setenv FrienldyName <<value>>` `#reboot`

Value	**Example**	**Description**
`Text String`	`#setenv FirendlyName Libre` `#reboot`	States friendly name of the product

To know the current value of the NV-Item use the below command.

Command	`#getenv FriendlyName`

3.75. AirPlayMetaData

NV-Item Name	AirPlayMetaData
NV-Item Description	This NV-Item is used is used to configure the "md" field of Bonjour Text record. AirplayMetadata values are supported as per Apple spec.
Command Syntax	`#setenv AirplayMetadata <<value>>` `#reboot`

Value	**Example**	**Description**
`0`	`#setenv AirplayMetadata 0` `#reboot`	No Text, Progress and Artwork are supported.
`1`	`#setenv AirplayMetadata 1` `#reboot`	Only Text Supported.
`2`	`#setenv AirplayMetadata 2` `#reboot`	Only Artwork supported.
`3`	`#setenv AirplayMetadata 3` `#reboot`	Text and artwork are supported.
`4`	`#setenv AirplayMetadata 4` `#reboot`	Only Progress supported.
`5`	`#setenv AirplayMetadata 5` `#reboot`	Text and Progress are supported.
`6`	`#setenv AirplayMetadata 6` `#reboot`	Artwork and Progress supported.
`7`	`#setenv AirplayMetadata 7`	Text, Progress and Artwork are supported.

	#reboot	

To know the current value of the NV-Item use the below command.

Command	#getenv AirplayMetadata

3.76. MCULatency

NV-Item Name	MCULatency
NV-Item Description	This NV-Item is used to vary the play back latency of Airplay playback. Airplay supports Multiple speaker and this NV helps to adjust the playback latency of LS speaker to sync it with reference audio playback from Airport express. MCU Latency has to be programmed with "Number of samples" corresponding to the playback latency. To introduce delay in LS Airplay audio output, MCU Latency should be decreased by the corresponding number of samples. To reduce delay in LS audio output, MCU Latency should be increased by the corresponding number of samples. MCULatency Range MCULatency ranges from "-(PlayerLatency) to +(11025-PlayerLatency)" In LS Player Latency is 9702, So the range of MCU Latency is from ***-9702 to (11025-9702) = -9702 to 1323***. Default MCULatency value is "**0**" Convert Time to Samples 1 second = 44100 samples. 1 ms = 44100/1000 = 44.1 samples. Examples to Calculate MCULatency Case 1: LS leads the reference audio out by **18.25 ms** This means that LS is ahead of the reference signal and hence we need to introduce some delay to LS audio out.

	First find the number of samples corresponding to 18.25ms. 1ms = 44100/1000 = 44.1 samples 18.25 ms = 44.1 * 18.25 = 804.825 samples Rounding of to 805 samples. Now to introduce delay, MCU Latency should be decremented by the calculated samples, Therefore, MCULatency = -805. Case 2: LS lags the reference signal by **25.015 ms**. This means that LS is lagging behind the reference signal and hence we need to reduce the delay of LS audio out. First find the number of samples corresponding to 25.015 ms. 1ms = 44.1 samples 25.015 ms = 44.1 * 25.015 = 1103.1615 samples Rounding of to 1103 samples. Now to reduce the delay, MCU Latency should be incremented by the calculated samples. Therefore, MCU Latency =1103.
Command Syntax	`#setenv MCULatency <<value>>` `#reboot`

Value	**Example**	**Description**
`0 (Default)`	`#setenv MCULatency 0` `#reboot`	Sets the MCULatency to '**0**'

To know the current value of the NV-Item use the below command.

Command	`#getenv MCULatency`

3.77. SlaveFollowMasterVol

NV-Item Name	SlaveFollowMasterVol

NV-Item Description	This NV-Item is used is used to define the volume control for Slaves in the DDMS Group. HOST-MCU and the Network Clients (APP) should always send MB# 219 in LUCI, to control the volume of the DDMS Group.
Command Syntax	`#setenv SlaveFollowMasterVol <<value>>` `#reboot`

Value	Example	Description
0	`#setenv SlaveFollowMasterVol 0` `#reboot`	Change in the volume level of the DDMS group, results in change of the volume level of individual speakers proportionately.
1	`#setenv SlaveFollowMasterVol 1` `#reboot`	ALL the speakers in the DDMS group will have same volume levels. All the Slave in the DDMS group will have the same volume level as that of Master.

To know the current value of the NV-Item use the below command.

Command	`#getenv SlaveFollowMasterVol`

3.78. StereoPairMode

This NV-item is applicable for LS9 Module Only.

NV-Item Name	StereoPairMode
NV-Item Description	This NV-Item is used for configuring two devices into a single stereo pair. This NV-Item can also be used to know the current audio-output channel for the Master and Slave Speaker in Stereo-Pair-Mode. Data sent over MB #108 is stored in this NV-item
Command Syntax	`#setenv StereoPairMode <<value>>` `#reboot`

Value	Example	Description
NONE	#setenv StereoPairMode NONE #reboot	The speaker device is in stereo channel audio-output.
MASTERRIGHT	#setenv StereoPairMode MASTERRIGHT #reboot	To set-up the speaker device as Master with Right Channel audio-output.
MASTERLEFT	#setenv StereoPairMode MASTERLEFT #reboot	To set-up the speaker device as Master with Left Channel audio-output
SLAVERIGHT	#setenv StereoPairMode SLAVERIGHT #reboot	To set-up the speaker device as Slave with Right Channel audio-output
SLAVELEFT	#setenv StereoPairMode SLAVELEFT #reboot	To set-up the speaker device as Slave with Left Channel audio-output.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv StereoPairMode

3.79. StereoPairTimeOut

This NV-item is applicable for LS9 Module Only.

NV-Item Name	StereoPairTimeOut
NV-Item Description	NV-Item StereoPairTimeOut is used to set the duration for which the StereoPairMode is active.

	After the timeout StereoPairMode will be disabled. Duration defined should be a non-zero value. Default ShareTimeOut is 120 seconds.
Command Syntax	`#setenv StereoPairTimeOut <<value>>`

Value	**Example**
Time in seconds	`#setenv StereoPairTimeOut 120` `#reboot`

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv StereoPairTimeOut`

3.80. lucii2c

NV-Item Name	lucii2c
NV-Item Description	NV-Item lucii2c is used enable or disable HOST-MCU and LUCI communication over I2C.
Command Syntax	`#setenv lucii2c <<value>>`

Value	**Example**	**Description**
0	`#setenv lucii2c 0` `#reboot`	Disables HOST-MCU and LUCI communication over I2C

xx	`#setenv lucii2c xx`
	`#reboot`
	Where, xx is the 7-bit slave address.
		Enables HOST-MCU and LUCI communication over I2C.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv lucii2c`

3.81. 3gbridging

NV-Item Name	3gbridging
NV-Item Description	NV-Item **3gbridging** is used enable or disable 3G Bridging feature. When 3gbridging is enabled, you can connect the product to a SA mode network and as well as use the internet services provided over 3G network by the internet service provider.
Command Syntax	`#setenv 3gbridging <<value>>`

Value	Example	Description
0 (default)	`#setenv 3gbridging 0` `#reboot`	`Disables 3gbridging`
1	`#setenv 3gbridgning 1` `#reboot`	`Enables 3gbridging.`

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv 3gbridging`

3.82. Outputfs

- This NV-Item is Applicable only for LS9 / LS5B module-HD enabled firmware with dynamic sampling frequencies.
- When Outputfs is enabled, LRCK NV-item is not applicable.

NV-Item Name	outputfs
NV-Item Description	This NV-Item is used to enable or disable the dynamic output frequency in LS9 /LS5B HD enabled devices. Customers can specify all the supported sampling frequencies in increasing order separated by commas (“,”). Firmware should always support at least **two or more** sampling frequencies at any point of time.

Command Syntax	#setenv outputfs <<value>>	
Value	**Example**	**Description**
“” (Default)	#setenv outputfs “” #reboot	Disables dynamic output frequency
44100, 48000, 88200, 96000, 176400, 192000	#setenv outputfs 44100, 48000, 88200, 96000, 176400, 192000 #reboot	Sets output frequencies to change dynamically.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv outputfs

3.83. AlexaProductID

NV-Item Name	AlexaProductID	
NV-Item Description	This NV-Item defines an unique name that identifies the product.	
Command Syntax	#setenv AlexaProductID <<value>>	
Value	**Example**	**Description**
Device Type Info	#setenv AlexaProductID <<Device Type Info>> #reboot	This value needs to be filled from “Device Type info" section after registering the product on " https://developer.amazon.com"

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv AlexaProductID

3.84. AlexaClientID

NV-Item Name	AlexaClientID	
NV-Item Description	This NV-Item specifies that the ID is assigned to the customer when registered with Amazon.	
Command Syntax	#setenv AlexaClientID <<value>>	
Value	**Example**	**Description**

Client ID Information	#setenv AlexaClientID <<ClientID Info>> #reboot	This value needs to be filled from "Security Profile" section after registering the product on "https://developer.amazon.com"

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv AlexaClientID

3.85. CurrentLocale

NV-Item Name	CurrentLocale
NV-Item Description	This NV-Item represents the default language setting of Amazon Voice Service.
Command Syntax	#setenv CurrentLocale <<value>>

Value	**Example**	**Description**
en-US	#setenv CurrentLocale en-US #reboot	Default language setting is US English.
En-GB	#setenv CurrentLocale en-GB #reboot	Default language setting is British English.
En-CA	#setenv CurrentLocale en-CA #reboot	Default language setting is Canadian English.
En-IN	#setenv CurrentLocale en-IN #reboot	Default language setting is India English.
de-DE	#setenv CurrentLocale de-DE #reboot	Default language setting is German.
ja-JP	#setenv CurrentLocale ja-JP #reboot	Default language setting is Japanese.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv CurrentLocale

3.86. Endpointurl

NV-Item Name	Endpointurl
NV-Item Description	This NV-Item Represents the Endpoint URL that the device connects to access AVS. By default, the value will be set to https://avs-alexa-na.amazon.com. This value will changes based on customer's location. Customers need not set this manually.
Command Syntax	#setenv Endpointurl <<value>>

Value	Example	Description
url	#setenv Endpointurl https://avs-alexa-na.amazon.com. #reboot	Default Value

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv Endpointurl

3.87. SpotifyClientID

- All customers applying for Spotify Certification from June 2017 and onwards should obtain the Client ID and include in the final firmware before applying for certification.
    - While using the spotifyClienID NV-item ensure the value of NV-Item SpotifyAppKey is empty.
- Customers with *Spotify APP Key* can go ahead with the same key and include it in the **SpotifyAppKey** NV-Item.

NV-Item Name	SpotifyClientID
NV-Item Description	NV-Item SpotifyClientID is used to store the unique ID to access the Spotify Library.

Command Syntax	`#setenv SpotifyClientID <<value>>`	
Value	**Example**	**Description**
`ASCII Format`	`#setenv SpotifyClientID “” #reboot`	Unique ID to access Spotify library.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv SpotifyClientID`

3.88. CRCenable

NV-Item Name	CRCenable	
NV-Item Description	NV-Item CRCenable is used to enable or disable validating the CRC value to match with HOST-MCU CRC value. If value is set as ‘false’, CRC value 0 is ignored, and non-zero is considered valid CRC If value is set as ‘true’, all values of CRC including 0 are considered valid CRC. For example, if you do not use CRC check, set the NV-item as **false**. By default, the value is set as false.	
Command Syntax	`#setenv CRCenable <<value>>`	
Value	**Example**	**Description**
`false`	`#setenv CRCenable false #reboot`	‘0’ is considered as no-CRC
`true`	`#setenv CRCenable true #reboot`	‘0’ is considered as valid CRC

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv CRCenable`

3.89. QuickAux

NV-Item Name	QuickAux
NV-Item Description	NV-Item QuickAux is used to enable latency improvement. Enabling this NV-Item reduces the audio latency. For example, enabling the QuickAux in free mode, will reduced audio latency to 25ms. By default, the value is '0'. This NV-Item is applicable for AUX-source only.
Command Syntax	`#setenv QuickAux <<value>>`

Value	**Example**	**Description**
`0(Default)`	`#setenv QuickAux 0` `#reboot`	There will be no change in the audio latency.
`1`	`#setenv QuickAux 1` `#reboot`	Enables latency improvement.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv QuickAux`

3.90. ddms_BAND (LS9 Only)

NV-Item Name	ddms_BAND
NV-Item Description	NV_item ddms_BAND is used to enable dual bandwidth in SA Mode. That is to enable the product with Wi-Fi support for 2 GHZ or 5 GHZ bandwidth. This NV-Item can be set from the webpage also.
Command Syntax	`#setenv ddms_BAND <<value>>`

Value	Example	Description
2G	#setenv ddms_BAND 2G #reboot	Sets the Wi-Fi band for the product as 2 GHz
5G	#setenv ddms_BAND 5G #reboot	Sets the Wi-FI band for the product as 5 GHz

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv ddms_BAND

3.91. AutoWac

NV-Item Name	AutoWac
NV-Item Description	NV_item AutoWac is used trigger WAC automatically when the device boots-up for the first time after factory reset.
Command Syntax	#setenv AutoWac <<value>>

Value	Example	Description
1 (Default)	#setenv AutoWac 1 #reboot	Enables Auto WAC feature.
0	#setenv AutoWac 0 #reboot	Disables Auto WAC feature.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv AutoWac

3.92. e2pregion

NV-Item Name	e2pregion
NV-Item Description	NV_Item e2pregion is used to set the country code in the e2pregion as provided by the HOST-MCU. The values set in the NV-Item is read by Message-Box 206.
Command Syntax	`#setenv e2pregion <<value>>`

Value	Example	Description
0 (Default)	`#setenv e2pregion 0` `#reboot`	Disables e2pregion feature.
1	`#setenv e2pregion 1` `#reboot`	Enables e2pregion feature.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv e2pregion`

3.93. BTAAC

NV-Item Name	BTAAC
NV-Item Description	NV_Item BTAAC is used to enable the audio streaming in AAC format for BT-Playback.
Command Syntax	`#setenv BTAAC <<value>>`

Value	Example	Description
0 (Default)	`#setenv BTAAC 0` `#reboot`	Disables audio streaming in AAC format for BT-Playback.
1	`#setenv BTAAC 1` `#reboot`	Enables audio streaming in AAC stream for BT-Playback.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv BTAAC`

3.94. DspgTuningParameter

NV-Item Name	DspgTuningParameter
NV-Item Description	NV_Item DspgTuningParameter, is used to set the Tuned value (in decimal format) to be set to DSPG for Acoustic Echo Cancellation while running Barge-in mode. This NV-Item is specific to speaker design, and values vary and is specified in decimal format.
Command Syntax	`#setenv DspgTuningParameter <<value>>`

Value	**Example**
`900` `(Default -Libre Reference Speaker)`	`#setenv DspgTuningParameter 900` `#reboot`

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv DspgTuningParameter`

3.95. BT_BAUDRATE

NV-Item Name	BT_BAUDRATE
NV-Item Description	NV_Item BT_BAUDRATE, specifies the UART baud rate used by BT chip (LSBT) to communicate with LS-modules (LS6 and LS5B). Not applicable for LS9 Module.

Command Syntax	#setenv BT_BAUDRATE <<value>>

Value	Example	Description
115200 (Default)	#setenv BT_BAUDRATE 115200 #reboot	BT Baudrate is set to 115200
96200	#setenv BT_BAUDRATE 96200 #reboot	BT Baudrate is set to 96200

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv BT_BAUDRATE

3.96. UIcount

NV-Item Name	UIcount
NV-Item Description	NV_Item UIcount, is used to know the number of browse items rendered to APP/HOST-MCU in JSON for UI display at one time. The values are integers that can range up-to 50.
Command Syntax	#setenv UIcount <<value>>

Value	Example	Description
10	#setenv UIcount 10 #reboot	10 items are rendered for UI display.
60	#setenv UIcount 60 #reboot	50 items are rendered for UI display. Values beyond 50 are considered as 50 items only.

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv UIcount

3.97. NG_Attack

NV-Item Name	NG_Attack	
NV-Item Description	Once the input signal goes above NG_Upper_Threshold (music detected), and NG_Hold_time_Up is over, the signal will fade-in in NG_Attack time. The value set in milliseconds. The value ranges from Minimum of 1 to Maximum of 1000	
Command Syntax	`#setenv NG_Attack <<value>>`	
Value	**Example**	**Description**
`1 (Default)`	`#setenv NG_Attack 1`	Minimum value in ms
`1000`	`#setenv NG_Attack 1000`	Maximum value ms

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv NG_Attack`

3.98. NG_Release

NV-Item Name	NG_Release
NV-Item Description	Once the input signal goes below NG_Lower_Threshold (silence detected), and NG_Hold_time_Down is over, the signal will fade-out in NG_ Release time. The value set in milliseconds. The value ranges from Minimum of 1 to Maximum of 1000
Command Syntax	`#setenv NG_Release <<value>>`

Value	Example	Description
1 (Default)	#setenv NG_Release 1	Minimum value in ms
1000	#setenv NG_Release 1000	Maximum value ms

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv NG_Release

3.99. NG_Hold_time_Down

NV-Item Name	NG_Hold_time_Down	
NV-Item Description	Hold time from silence detection (signal reaching below lower threshold) to start of ramping down the output signal. The value set in milliseconds. The value ranges from Minimum of 0 to Maximum of 1000000	
Command Syntax	#setenv NG_Hold_time_Down <<value>>	
Value	**Example**	**Description**
5000 (Default)	#setenv NG_Hold_time_Down 5000	Hold time down of 5000 ms

To know the current value of the NV-Item use the below command.

Command Syntax	#getenv NG_Hold_time_Down

3.100. NG_Hold_time_Up

NV-Item Name	NG_Hold_time_Up

NV-Item Description	Hold time from music detection (signal reaching above the upper threshold) to start of ramping up the output signal. The value set in milliseconds. The value ranges from Minimum of 0 to Maximum of 1000000
Command Syntax	`#setenv NG_Hold_time_Up <<value>>`

Value	**Example**	**Description**
`20 (Default)`	`#setenv NG_Hold_time_Up 20`	Hold time-up of 20 ms.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv NG_Hold_time_Up`

3.101. NG_Lower_Threshold

NV-Item Name	NG_Lower_Threshold
NV-Item Description	(RMS)Threshold in db below which silence is flagged(detected).
Command Syntax	`#setenv NG_Lower_Threshold <<value>>`

Value	**Example**	**Description**
`TBG`		

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv NG_Lower_Threshold`

3.102. NG_Upper_Threshold

NV-Item Name	NG_Upper_Threshold	
NV-Item Description	(RMS)Threshold in db , above which music is flagged.	
Command Syntax	`#setenv NG_Upper_Threshold <<value>>`	
Value	**Example**	**Description**
TBG		

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv NG_Upper_Threshold`

3.103. USBalbumart

NV-Item Name	USBalbumart	
NV-Item Description	enable/disable song album art while browsing for USB source.	
Command Syntax	`#setenv USBalbumart <<value>>`	
Value	**Example**	**Description**
`true`	`#setenv USBalbumart true`	The album art URL is sent in browse JSON at "StationImage" field.
`false`	`#setenv USBalbumart false`	The album art is not sent.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv USBalbumart`

3.104. Dspconfig (LS5BV Only)

NV-Item Name	dspconfig
NV-Item Description	This NV-Item is used to configure the value for DSPG Configuration.
Command Syntax	`#setenv dspconfig <<value>>`

Value	Example	Description
`16,internal`	`#setenv dspconfig 16,internal`	It is used for 32fs sampling rate of reference feedback signal. The value "internal" configuration is applicable for the reference fed directly from LS5B output.
`32,internal`	`#setenv dspconfig 32,internal`	It is used for 64fs sampling rate of reference feedback signal. The value "internal" configuration is applicable for the reference fed directly from LS5B output.
`16,external`	`#setenv dspconfig 16,external`	It is used for 32fs sampling rate of reference feedback signal. The value "external" configuration is applicable for the reference fed from customer DSP output.
`32,external`	`#setenv dspconfig 32,external`	It is used for 64fs sampling rate of reference feedback signal. The value "external" configuration is applicable for the reference fed from customer DSP output.

To know the current value of the NV-Item use the below command.

Command Syntax	`#getenv dspconfig`

4. Appendix

4.1. Acronyms and Abbreviations

For details on acronyms and abbreviations used in the document see

"**LibreWirelessTechNote_Acronyms_And_Abbreviations_1.0**"