CC3100 SimpleLink™

Single-Chip 802.11bgn Networking Solution

Software Development Kit (SDK) v0.5 Release Notes

TABLE OF CONTENTS

LIST OF TABLES

1 Scope

This document describes the CC3100 Software Development Kit version 0.5 Release package. The software package is built for use with CC3100HZ PG1.32, and is targeted for FAEs and for early customer engagement and evaluation. CC31xx SW development is still in progress, and this release can be considered alpha quality. This release is recommended to be used with CC3100 Booster Pack Rev. 3.3 platforms.

Item	Explanation
Date of Release	May 15, 2014
Release Name	CC3100 SDK v0.5
Build Date	May 15, 2014
Firmware Version	2.0.7.0.31.0.0.4.2.1.5.3.3

Table 1 : Release general information

2 New Feature added on top of SDKv0.41

- UART Driver Support for MSP430F5529 LP and TIVA C LP
- P2P (WiFiDirect)
- Antenna Selection (reference code for host MCU)
- AP provisioning
- Force AP mode
- Connection Policy (Auto SmartConfig)
- Auto Connection Policy is now enabled by default
- Power Policies (Long Sleep Interval)
- Secure file system
- WAC Ready - simple API to configure the Info Element for Provisioning.

3 Maturity, Limitation and Known Issues

- Host SPI interface max speed: 14MHz
- UART 4 wire up to 3Mhz
- Up to 24 hours stability in all traffic scenarios – User may rarely experience:

- Traffic Stops
- System freeze

- Robustness tests
  - Start/Stop with Wi-Fi Connect/Disconnect and data Tx burst was tested for 5000 cycles and found to be stable
  - Wi-Fi Connect/Disconnect without data was tested for 5000 cycles and found to be stable
- SSL
  - Elliptic-curve based ciphers (e.g. ECDH) have longer connection time
  - Max throughput: 5Mbps
- Network Stack
  - TCP Window size: 16KB
  - TCP Window size is divided among all user sockets.
  - IP Fragmentation is not supported for Tx UDP and RAW sockets
  - In connection mode Tx and Rx traffic should be done after IP is acquired
- File System
  - Up to 100 user files
  - File size is not limited
- SPI Interface
  - Little Endianness is supported
  - 8/16/32bit modes are supported
  - Big Endianness auto detection is supported for SPI interface
- HTTP Server
  - Support HTTP 1.0
- WPS
  - Delay of up to 4 seconds can be seen between association and EAPOL-Start when using WPS connection
- Connection Policies
  - The profile has to be explicitly added when using 'Fast' connection-policy

3.1 Product Constraints

- SSL
  - Supported modes
    - Up to one Server (Listen Socket and Accept Socket) + Client (Data socket)
    - Up to Two clients (Data socket)

  - CA Certificates must be installed if server authentication is required
  - CA Certificate key length must be less than or equal to 2048-bit

- SmartConfig
  - Not supported with 5GHz AP (802.11a/n/ac)
  - Not supported for MIMO-capable configuration devices
  - Only Group 0 is supported in auto start mode
- Tx Power
  - Tx power in AP mode takes effect only after reset
- Wi-Fi Direct
  - When the Wi-Fi Direct is set to be Group Owner (GO) the recommendation will be to set FAST connection policy to TRUE
- Rx Filters
  - BSSID can't be filtered while STA is connected (If filtered will cause disconnection)
- Power Management
  - The device will remain in active after initialization until the host reads all events
- Network Stack
  - Max Tx payload for Raw packet with IP header is 1460 bytes
  - Max Tx payload for Raw Transceiver is 1488 bytes
  - Closing socket should be done in a proper way (for example not to close a socket while there is blocking receive command on it) - a timeout can be used in this scenarios
- Supported SFLASH

  The product supports JEDEC specification (called SFDP 'serial flash device parameters') – the below list contains the main SFLASH parts that have been verified.
  - Micron N25Q128- A13BSE40 - 128Mbit
  - Spansion S25FL208K - 8Mbit
  - Winbond W25Q16V - 16Mbit
  - Adesto AT25DF081A - 8Mbit
  - Macronix MX25L12835F-M2 - 128Mbit

4 Release Components

The release package is wrapped in installer **CC3100_SDK_v0.5.exe.** The executable is a simple file extractor with click wrap license. It is available only on Windows (XP or Win-7).

Item	Version	Type
Device	CC3100GZ PG1.32	
Device Datasheet		PDF (Supplied separately)
Hardware Platform	CC3100 Booster Pack V3.3, EMUBOOST Board v3.0	HW (Supplied separately), User Guide , Schematics
Device Firmware	Version 0.5	Pre-burnt on Booster Pack and separate package with binaries and Flashing Tool
Host MCU Platform	MSP430F5529 Launch Pad, MSP430FRAM5739Experimenter Board Rev 1.1, MSP430F5529 Experimenter Board and Tiva-C Launchpad (TM4C123GH6PM)	
CC3100 Host Driver	Version 0.5	Source
IDE	IAR version 6.10 (MCU) IAR version 7.10 (ARM) CCS Version : 6.0 (MCU) MS Visual Studio 2010 (SimpleLink Studio) Eclipse 4.3.0 (SimpleLink Studio)	
Sample Applications on MSP430F5529 Launchpad		
	Antenna Selection	Source and App Note
	Connection Policies	Source and App Note
	Email	Source and App Note
	Enterprise Network Connection	Source and App Note
	File Operations	Source and App Note
	Get Time	Source and App Note
	Get Weather	Source and App Note
	Getting Started in AP Mode	Source and App Note
	Getting Started in STA Mode	Source and App Note
	HTTP Server	Source and App Note
	IP Configuration	Source and App Note

	mDNS	Source and App Note
	Mode Config	Source and App Note
	NWP Filters	Source and App Note
	NWP Power Policy	Source and App Note
	P2P	Source and App Note
	Provisioning AP	Source and App Note
	Provisioning with SmartConfig	Source and App Note
	Provisioning with WPS	Source and App Note
	Scan Policy	Source and App Note
	SPI Diagnostics Tool	Source and App Note
	SSL/TLS	Source and App Note
	TCP Socket (Tx, Rx)	Source and App Note
	Transceiver Mode	Source and App Note
	UDP Socket (Tx, Rx)	Source and App Note
	XMPP Client	Source and App Note
Sample Application on MSP430F5739 Experimenter Board		
	Getting Started in AP Mode	Source and App Note
	Getting Started in STA Mode	Source and App Note
Sample Application on MSP430F5529 Experimenter Board		
	Getting Started in AP Mode	Source and App Note
	Getting Started in STA Mode	Source and App Note
Sample Application on TIVA C Launch Pad		
	Getting Started in AP Mode	Source and App Note
	Getting Started in STA Mode	Source and App Note
Sample Applications on SimpleLink-Studio		
	Email	Source and App Note
	Get Time	Source and App Note
	Get Weather	Source and App Note
	Getting Started in AP Mode	Source and App Note
	Getting Started in STA Mode	Source and App Note
	NWP Filters	Source and App Note
	Transceiver Mode	Source and App Note
	XMPP Client	Source and App Note
Out of Box Demo	HTML Files	Source and App Note

Collaterals		
	Quick Start Guide	App Note
	CC3100 Booster Pack User Guide	App Note
Tools		
	FTDI PC driver for FTDI Emulation Board/Booster Pack	Executable and App Note (part of Quick Start Guide)
	Flash-Programmer for flashing SSL and enterprise certificates, html pages	Executable and Readme

5 Device Hardware

Refer to CC3100 Datasheet

6 Device Firmware

6.1 Features List

6.1.1 WiFi

Standards	802.11bgn **STA** and WiFi Direct **Client**
Supported Channels	1-13
Security	**Personal**: WEP, mixed mode WPA2/WPA **Enterprise (STA)**: EAP Fast, EAP PEAPv0 MSCHAPv2, EAP PEAPv0 TLS, EAP PEAPv1 TLS, EAP TLS, EAP TTLS TLS, EAP TTLS MSCHAPv2
Ease Of Use	WPS, Internal HTTP Web Server with option to modify Configuration pages and propriety tokens, Smart Config

Standards	802.11bg **AP**, WiFi Direct **GO**
Supported connections (STAs)	1
Supported	1-11

Channels	
Security	**Personal (AP and GO)** : WEP, WPA1 and WPA2
Ease Of Use	HTTP Web Server, Configurable IE for WAC Provisioning, AP for configurations

6.1.2 Networking

IP protocol	IPv4
Transport	UDP, TCP, RAW , ICMP
Cross-Layer Protocols	DHCP, ARP, DNS
Security	SSL3.0 and TLS1.2 – TLS and SSL RSA with RC4 128 SHA1 TLS ECDHE RSA with RC4 128 SHA1 TLS ECDHE RSA with AES 256 CBC SHA1 TLS DHE RSA with AES 256 CBC SHA1 TLS RSA with AES 256 CBC SHA1 SSL RSA with RC4 128 MD5
Sockets	Up to total of 8 sockets (external sockets) Up to 2 secured sockets
Embedded Applications	mDNS, DNS-SD and HTTP Web Server

6.1.3 Advanced Features

802.11 Transceiver	Transmit and Receive raw WiFi packets with full control over payload. WiFi disconnect mode. Can be used for general-purpose applications (e.g. tags, sniffer, RF tests)
Traffic Filters	Embedded filters to preserve power consumption and Wake-on-LAN trigger packets (IP and MAC layer)

6.1.4 Interfaces

SPI	Standard SPI up to 14MHz
UART	4 wire UART up to 3MHz

6.1.5 Power Modes

Low Power mode	802.11 Power Save and deep sleep power mode
Available modes	• Normal (Default) - Best tradeoff between traffic delivery time and power performance • Low power – Device power management algorithm is more opportunistic exploiting opportunities to lower its power mode – Should be used only for Transceiver mode application (Disconnect mode) • Long Sleep Interval – wakes up for the next DTIM, this policy will only work in client mode

7 Sample applications

The release package includes several sample applications, ported to the MSP430FF5529 Launchpad Board. Each of these applications is supported with:

- Detailed Application Notes explaining the functionality and how to use it
- Project file for IDE (IAR, CCS)
- Smartphone Android application as needed

7.1 Sample applications on MSP430F5529 Launchpad

7.1.1 Antenna Selection

This is a reference application demonstrating how 'antenna-selection' feature can be implemented on Host-MCU. CC3100, internally, doesn't support this feature

7.1.2 Connection Policies

Profiles are designed to allow connection to pre-defined stored Access Points (APs). The connection policy allows automatic and fast connection by controlling how the SimpleLink device attempts to connect to an AP. The sample applications demonstrate the usage of CC3100's profiles and connection-policies.

7.1.3 Email

The email application on the MSP430+CC3100 sends emails via SMTP. The email application sends a preconfigured email at the push of a button or a user-configured email through the CLI.

7.1.4 Enterprise Network Connection

This example demonstrates the procedure to connect CC3100 to enterprise networks.

7.1.5 File Operations

This is an application demonstrating the use of file operation APIs.

7.1.6 Get Time

The application connects to an SNTP server and requests time information.

7.1.7 Get Weather

The application connects to 'Open Weather Map' and requests weather data

7.1.8 Getting Started in AP Mode

The application configures the CC3100 in AP mode. It verifies the connection by pinging the client that gets connected to it.

7.1.9 Getting Started in STA Mode

The application configures the CC3100 in STA mode. It verifies the connection by pinging the client that gets connected.

7.1.10 HTTP Server

This examples demonstrates how to use the internal (running inside NWP) HTTP Server interface APIs to enable the static and dynamic content on web page.

7.1.11 IP Configuration

This example demonstrates how to enable static IP configuration instead of using DHCP.

7.1.12 MDNS

This example registers the service for broadcasting and attempts to get the service by the name broadcasted by another device.

7.1.13 Mode Config

The application demonstrates the switching of CC3100's operation mode from STA to AP and vice-versa.

7.1.14 NWP Filters

The Rx-Filters feature enables the user to simply define and manage the Rx-filtering process. This is in order to reduce the amount of traffic transferred to the host, and to achieve efficient power management. The application demonstrates management of the Rx-filtering process.

7.1.15 NWP Power Policy

The power policies enable the user to reduce the current consumption based on the use case in the station mode. The application shows how to enable different power policy.

7.1.16 P2P (WiFiDirect)

This application configures the device in P2P/ WiFiDirect mode and demonstrates how to communicate with the remote P2P device.

7.1.17 Provisioning AP

This application with html pages demonstrates the use of internal http server for Wi-Fi provisioning in AP Mode.

7.1.18 Provisioning with SmartConfig

The application demonstrates the usage of TI's SmartConfig™ Wi-Fi provisioning technique.

7.1.19 Provisioning with WPS

The application demonstrates the usage of WPS Wi-Fi provisioning with CC31xx.

7.1.20 Scan Policy

The application demonstrates the scan-policy settings in CC3100.

7.1.21 SPI Diagnostics Tool

This is a diagnostics application for checking the SPI configuration.

7.1.22 SSL/TLS

SSL certificates are designed to provide two principles: privacy and authentication. Privacy is achieved by encryption/decryption and authentication is achieved by signature/verification. The application demonstrates the usage of certificates with SSL.

7.1.23 TCP Socket

The application demonstrates the connection scenario and basic TCP functionality.

7.1.24 Transceiver Mode

The application demonstrates the CC3100's transceiver mode of operation.

7.1.25 UDP Socket

The application demonstrates the connection scenario and basic UDP functionality.

7.1.26 XMPP Client

The application demonstrates the connection scenario with an XMPP server.

7.2 Sample applications on MSP430F5739 Experimenter Board

7.2.1 Getting Started in AP Mode

The application configures the CC3100 in AP mode. It verifies the connection by pinging the client that gets connected to it.

7.2.2 Getting Started in STA Mode

The application configures the CC3100 in STA mode. It verifies the connection by pinging the client that gets connected

7.3 Sample applications on MSP430F5529 Experimenter Board

7.3.1 Getting Started in AP Mode

The application configures the CC3100 in AP mode. It verifies the connection by pinging the client that gets connected to it.

7.3.2 Getting Started in STA Mode

The application configures the CC3100 in STA mode. It verifies the connection by pinging the client that gets connected

7.4 Sample applications on TIVA C Launch Pad

7.4.1 Getting Started in AP Mode

The application configures the CC3100 in AP mode. It verifies the connection by pinging the client that gets connected to it.

7.4.2 Getting Started in STA Mode

The application configures the CC3100 in STA mode. It verifies the connection by pinging the client that gets connected

7.5 Sample applications on SLS

7.5.1 SLS Getting Started in AP Mode

The application configures the CC3100 in AP mode. It verifies the connection by pinging the client that gets connected to it.

7.5.2 SLS Getting Started in STA Mode

The application configures the CC3100 in STA mode. It verifies the connection by pinging the AP that gets connected

7.5.3 SLS Email

The email application on the MSP430+CC3100 sends emails via SMTP. The email application sends a preconfigured email.

7.5.4 SLS Get Time

The application connects to an SNTP server and requests time information.

7.5.5 SLS Get Weather

The application connects to 'Open Weather Map' and requests weather data

7.5.6 SLS XMPP Client

The application demonstrates the connection scenario with an XMPP server.

7.5.7 SLS Transceiver Mode

The application demonstrates the CC3100's transceiver mode of operation.

7.5.8 SLS Sniffer with Filters

The Rx-Filters feature enables the user to simply define and manage the Rx-filtering process. This is in order to reduce the amount of traffic transferred to the host, and to achieve efficient power management. The application demonstrates management of the Rx-filtering process.

8 SDK v0.5 Package Contents

Double-Click on the package to copy the directories (and files) to the preferred location. The first level directory structure is as shown in the table below.

Directory Name	Information
Docs	• Quick Start Guide with instructions on setting up the platform and executing sample application(s) • User Guide with details on 'CC3100 Booster Pack' and it's interfacing with MCU Launch Pad, EMUBOOST Board, schematics and placement diagram • Application notes for applications
Examples	Each application has app notes under <cc3100_sdk>/docs.
Platform	• Contains all the supported platforms in SDK v0.5 ○ MSP430FR55529lp ▪ Contains CCS projects for all the sample applications that are supported on this platform ▪ Contains IAR projects for 'getting_started_with_wlan_station' and 'getting_started_with_AP' ▪ Contains all the required drivers ▪ Contains 'user.h' (Details in the abstract @

	<cc3100_sdk>/simplelink ○ MSP430FR5529, TM4C123GH6PM, MSP430FR5739 ▪ Contains IAR and CCS projects for 'getting_started_with_wlan_station' and 'getting_started_with_AP' application ▪ Contains all the required drivers ▪ Contains 'user.h' (Details in the abstract @ <cc3100_sdk>/simplelink ○ simplelinkstudio: ▪ Contains Visual-Studio and Eclipse projects for the sample applications that are supported on this platform ▪ Contains 'user.h' (Details in the abstract @ <cc3100_sdk>/simplelink
SimpleLink	• Contains 'SimpleLink Host Driver' code. • The package contains a template 'template_user.h'file which should be filled by the user for his specific application and platform.
Tools	• **cc31xx_board_drivers:** Drivers to be installed on Host-PC • **sl_progammer_command_line:** Flash Programmer with additional support for flashing certificates

Table 2 : Package Contents

9 How to Start

- Get the hardware platform from your TI representative.
- Follow the Quick Start User Guide to make your very first connection to your Access Point using the CC3100 (WLAN router).

10 Items Fixed in this release (with respect to version 0.41)

ID	MCS00127993
Title	Filtering: System Stuck when filtering control, management or Data packets during traffic

ID	MCS00128669
Title	Rx Filtering: 'Destination MAC' in RX filter doesn't work with RX statistics in transceiver mode
Description	When trying to filter only specific device MAC address, RX statistics shows valid packets counter increasing although nothing is transmitted to the device.

ID	MCS00128697
Title	Regulatory domain: Connection is established on channel 13 even though the regulatory domain is "US"

ID	MCS00127697
Title	STA connects to the first AP found and not to the AP with strongest RSSI

ID	MCS00128718
Title	Application Scan is not initiated while the device is already scanning for connection

ID	MCS00127455
Title	System might get stuck while running TCP Tx with low TP after a few hours

ID	MCS00128592
Title	IOP: Can't initiate Rx Traffic with Netgear WNR3500v1. due to unacknowledged Action from the AP
Description	AP doesn't respond to all 11b packet from the STA AP doesn't respect 802.11 Power Save at all times

ID	MCS00128708
Title	IOP: Proxim Orinoco AP-4000. SL device initiate DHCP session only for the first initiated connection
Description	When the AP is configured to WPA2-AES DHCP request from STA are working only for the first time

ID	MCS00128699
Title	IOP: Buffalo WHR-HP-GN. UDP Rx throughput is not stable
Description	The AP is not respecting 802.11 power save at all times which make the situation worse

ID	MCS00128887
Title	WPS: The device is not connected automatically after reset is secure AP is used
Description	After connecting with WPS the security part is not stored in NVMEM profiles correctly

ID	MCS00128928
Title	WPS Certifications: test 5.1.1: Serial number attribute in M1 message is empty
Description	Serial number in M1 Eapol is empty

ID	MCS00128939
Title	WPS Certifications: test 5.1.1: Serial number attribute in M1 message is empty
Description	Serial number in M1 Eapol is empty

ID	MCS00128546
Title	On TCP Tx retry packet all packet is been Retransmitted
Description	Receiver is sending an ACK only on part of the Tx packet but the Simple Link device is retransmitting the entire packet

ID	MCS00128613
Title	SL does not send reply when received request includes Options fields in IP Header

ID	MCS00128363
Title	Closing TCP Tx Socket can return immediately with success - in some cases not all packet will be transmitted (usually because of an Error)

ID	MCS00127547
Title	Delayed response when using BSD non polling commands (e.g. accept/recv) with high speed platform in NonOS
Description	Polling the non-Blocking commands in high speed is delaying the response due to system overload

ID	MCS00128656
Title	HTTP Server: It takes ~55 seconds for the internal web page to load in Nexus7 tablet with Chrome browser
Description	The Chrome browser seems to have issue with .net postfix

ID	MCS00128704
Title	mDNS : SimpleLink fail to move all field to new name service after unique check process
Description	After registering a new service only SRV and PTR move to new name service TXT left on old name service

ID	MCS00128904
Title	HTTP Server: In POST requests the 9th character of the token is converted to '.'

11 Errata - Known Issues

11.1 WiFi

ID	MCS00123349
Title	Wi-Fi Security: CC31xx Supports only WEP with Key Index 0 (==> AP Key index 1)
Description	When using WEP security – only WEP index 0 is supported
Impact	Can't use more than one key in WEP security
Workaround	None
Fix Expected	TBD

ID	MCS00106970
Title	Wi-Fi Security: Traffic Stop while WPA EAP-TLS Enterprise and Reauthentication enabled
Description	In WPA EAP-TLS security the traffic stopped when Reauthentication packet is received
Impact	Traffic stopped
Workaround	Disabled Reauthentication or set it to a very long time
Fix Expected	TBD

ID	MCS00130040

Title	Wi-Fi Direct Reliability: 65% Success rate when Peer device is initiator of connection
Description	Negotiation with other peer not always successful at first chance
Impact	The first connection doesn't success
Workaround	Try to connect again
Fix Expected	Next Revision

ID	MCS00130160
Title	Scan: Can't invoke Scan while connection is in progress
Description	While trying to connect using connect command or profiles invoking an explicitly Scan the connection doesn't success
Impact	Connection might not succeed
Workaround	Avoid calling scan during connection
Fix Expected	Next Revision

11.2 WiFi - IOP

ID	MCS00128381
Title	IOP: D-Link DWL 8600 AP - STA stops receiving Multicast traffic when WPA2 and key rotation are configured
Description	The AP is too busy transmitting the multicast frames, and tries to initiate the 2-way hand shake of the broadcast key rotation while SUT is in power save
Impact	The STA Stop receiving multicast traffic
Workaround	Disable Key Rotation in the AP
Fix Expected	Not Expected due to AP behavior

ID	MCS00128441
Title	IOP: Can't acquire DHCP IP address with 3COM WL-450 if security is configured to WPA2-AES
Impact	No IP address
Workaround	Configure the IP to static or disable security
Fix Expected	Not Expected due to AP behavior

ID	MCS00128156
Title	IOP: Connection to PCI MZK-MF300N doesn't complete when AP is configured to - Channel Width 40Mhz
Impact	No connection
Workaround	Configure the Channel Width to 20Mhz
Fix Expected	Not Expected due to AP behavior

ID	MCS00130071
Title	IOP: Connection to Belkin F7D2301 v1 doesn't complete when AP is configured to - Channel Width 40Mhz
Impact	No connection
Workaround	Configure the Channel Width to 20Mhz
Fix Expected	Not Expected due to AP behavior

ID	MCS00128440
Title	IOP: D-Link DAP-2690. Low and unstable TCP Rx traffic due to AP not respecting 802.11 power save
Impact	Unstable traffic
Workaround	None
Fix Expected	Not Expected due to AP behavior

ID	MCS00126520
Title	IOP: AP initiates deauth to the SL After ~5 Min of UDP Tx, when Remote PC is configured to 10M Full Duplex link speed
Description	Only in this network card configuration the AP sends deauth during the traffic
Impact	AP disconnected the STA during the UDP traffic
Workaround	Change the configuration of the network drive to Auto mode
Fix Expected	Not Expected due to Network card definition

ID	MCS00128462
Title	IOP: Linksys WAP55AG AP Is not compliant to 802.11 Power Save spec when configured to WAP2-AES
Impact	No Connection
Workaround	Disable security
Fix Expected	Not Expected due to AP behavior

ID	MCS00128725
Title	IOP: TRENDnet TEW-671BR – SL device doesn't respond to AP's frames at 11b rates
Impact	Can't establish stable connection with the AP
Workaround	N/A
Fix Expected	TBD

ID	MCS00128719
Title	IOP: TP-Link TD-W89841Nv4 AP. Is not compliant to 802.11 PS spec. Never asserts the Group bit in TIM IE
Description	AP never advertises the Group bit inside the TIM IE before and after transmitting of the ARP Request (broadcast packet) AP version: FW: 0.8.0 10.1 v0003.0 Build 121227 Rel.65166s
Impact	Can't Initiate Rx traffic
Workaround	Send Ping from the device to the AP after the connection
Fix Expected	Not Expected due to AP behavior

ID	MCS00128717
Title	IOP: Siemens Gigaset 01. Is not compliant to 802.11 PS spec. Never asserts the Group bit in TIM IE
Description	AP never advertises the Group bit inside the TIM IE before and after transmitting of the ARP Request (broadcast packet) AP version: FW: v1.0.0.1
Impact	Can't Initiate Rx traffic
Workaround	Send Ping from the device to the AP after the connection
Fix Expected	Not Expected due to AP behavior

ID	MCS00128462
Title	IOP: Linksys WAP55AG AP Is not compliant to 802.11 Power Save spec when configured to WAP2-AES
Description	AP doesn't Ack ARP response packets coming from the device when AES is enabled
Impact	Can't acquire IP when DHCP is enabled
Workaround	Disable AP security
Fix Expected	Not Expected due to AP behavior

ID	MCS00128703
Title	IOP: PCI MZK-MF300N AP. Is not compliant to 802.11 Power Save spec
Description	AP advertises the Group bit inside the TIM IE after transmitting of the ARP Request. SL device can't receive the packet AP version: FW: v1.00.05_B4
Impact	Can't Initiate Rx traffic
Workaround	Send Ping from the device to the AP after the connection
Fix Expected	Not Expected due to AP behavior

ID	MCS00128701

Title	IOP: I-O Data WN-G54/R4. Is not compliant to 802.11 Power Save spec
Description	AP advertises the Group bit inside the TIM IE after transmitting of the ARP Request. SL device can't receive the packet
Impact	Can't Initiate Rx traffic
Workaround	Send Ping from the device to the AP after the connection
Fix Expected	Not Expected due to AP behavior

ID	MCS00128693
Title	IOP: Netgear WNDAP350. Is not compliant to 802.11 Power Save spec
Description	AP advertises the Group bit inside the TIM IE after transmitting of the ARP Request. SL device can't receive the packet
Impact	Can't Initiate Rx traffic
Workaround	Send Ping from the device to the AP after the connection
Fix Expected	Not Expected due to AP behavior

ID	MCS00128607
Title	IOP: Netgear B90-7550. Is not compliant to 802.11 Power Save spec
Description	AP advertises the Group bit inside the TIM IE after transmitting of the ARP Request. SL device can't receive the packet
Impact	Can't Initiate Rx traffic
Workaround	Send Ping from the device to the AP after the connection
Fix Expected	Not Expected due to AP behavior

ID	MCS00128606
Title	IOP: Belkin F7D5301v3. Is not compliant to 802.11 Power Save spec
Description	AP advertises the Group bit inside the TIM IE after transmitting of the ARP Request. SL device can't receive the packet
Impact	Can't Initiate Rx traffic
Workaround	Send Ping from the device to the AP after the connection
Fix Expected	Not Expected due to AP behavior

ID	MCS00128367
Title	IOP: AP - STA Linksys AE1000 send NULL data with different sequence number
Description	When Linksys AE1000 dongle is connected to APUT, it sends NULL data

	with different sequence number than regular data. this yield to duplicated packet in the AP Rx side
Impact	Duplicated packet in AP Rx (mostly impact UDP)
Workaround	Disable AP security
Fix Expected	Not Expected due to STA behavior

ID	MCS00128672
Title	IOP: DLink DIR825 B1. UDP Rx Traffic is not Stable - AP stop transmitting Beacons after traffic starts
Description	At some point, AP stop transmitting Beacons, but does transmit data packets and RTS.
Impact	Traffic performance is not stable
Workaround	N/A
Fix Expected	Not Expected due to AP behavior

ID	MCS00129371
Title	IOP: Netgear3700v1 AP - TCP Tx traffic doesn't Always start between two STA devices
Description	The AP doesn't always forward the ARP Req if the STA was connect and disconnect for it number of times
Impact	Traffic doesn't start
Workaround	The AP is stuck – need to restart
Fix Expected	Not Expected due to AP behavior

ID	MCS00130102
Title	IOP: DLINK-615 With Security doesn't allow STA to fast reconnect
Description	The AP doesn't allow fast reconnect without a formal de-authentication or long time out
Impact	Initial connection failed immediately upon reset Successful connection was established soon after
Workaround	Using the Fast and Auto Policy will insure the 2nd connection will work In Manual connection Disconnect before connect command solves the problem
Fix Expected	Not Expected due to AP behavior

ID	MCS00130098
Title	IOP: WiFi Direct - Failure to connect as client to Galaxy S2
Description	With old versions of Galaxy S2 WiFi Direct – SimpleLink in client mode is not able to connect
Impact	Connection is not possible
Workaround	Switch the WiFi Direct policy to GO and enable Fast

Fix Expected	Not Expected due to WiFi Direct behavior

ID	MCS00129417
Title	IOP: Intellinet Wireless 3G Router. Is not compliant to 802.11 Power Save spec.
Description	AP advertises PVB wrongly before Action frame
Impact	In some cases can't Initiate Rx traffic
Workaround	Send Ping from the device to the AP after the connection
Fix Expected	Not Expected due to AP behavior

ID	MCS00130025
Title	IOP: WiFi Direct - Re-Connection after SL device is client with Zopo device is unsuccessful
Description	Trying to disconnect and reconnect to a Zopo device is not successful if the SL device was a client
Impact	Re-Connection is not possible
Workaround	Switch the WiFi Direct policy to GO and enable Fast
Fix Expected	Not Expected

ID	MCS00129759
Title	IOP: WPS - SL can't establish a WPS connection to the Actiontec PK5000 AP
Description	The AP is not excepting the WPS2.0 extension and refuse the connection
Impact	Can't connect with WPS
Workaround	Use other provisioning methods
Fix Expected	Not Expected (pending on SW upgrade to the AP)

11.3 Networking

ID	MCS00127876
Title	sl_NetAppDnsGetHostByName return with no answer in high traffic
Description	In high Rx traffic some DNS packets can get lost
Impact	No answer on request
Workaround	Run the API again
Fix Expected	TBD

ID	MCS00128353
Title	UDP/RAW socket data payload is limited to MTU size

Description	Tx IP Fragmentation is not supported for UDP and RAW Tx
Impact	Packet bigger than MTU size will lead that portion of the packet will be discard
Workaround	Use packet size <= MTU size
Fix Expected	TBD

ID	MCS00128580
Title	IOP: Microsoft MN-700 AP. Low Throughput Performance
Description	Throughput performance is low comparing to average throughout with other AP. The issue was also observed with other STA as well
Impact	Low Throughput Performance
Workaround	N/A
Fix Expected	Not Expected due to AP behavior

ID	MCS00128429
Title	IOP: Buffalo WZR-G300N AP. Low Rx Throughput Performance
Description	Rx throughput performance is lower comparing to average throughout with other AP
Impact	Low Throughput Performance
Workaround	N/A
Fix Expected	Not Expected due to AP behavior with aggregated packet in Rx

ID	MCS00119806
Title	IOP: Linksys WRT54gx v2 AP. Fails to obtain IP from DHCP server when operating with WPA2-PSK AES only privacy
Description	AP answers with a packet that is suspected as DHCP Offer, but this packet has MIC failure when decrypted, so the DHCP process is stuck
Impact	Connection is not feasible with WPA2-PSK AES and DHCP
Workaround	Use different security or disable DHCP
Fix Expected	Not Expected due to AP behavior during WPA2-PSK AES

ID	MCS00128959
Title	DHCP: SL continues using its previous IP address if an invalid IP in the DHCPACK (before lease time expired)
Description	DHCPACK arrives to SL with invalid address in the DHCPACK params address field but also the IP destination is the same invalid address (MAC address is the valid SL address). SL does not listen to other IPs address as destination but his own therefore this DHCPACK is not processed and SL continue to use his old address until the lease time expires
Impact	The device will continue to use the previous IP address

Workaround	N/A
Fix Expected	Not expected

ID	MCS00129407
Title	NS: SL device should discard datagram with problem in IP Header
Description	If the gateway or host processing a datagram finds a problem with the header parameters such that it cannot complete processing the datagram it must discard the datagram
Impact	Low impact – The SL device sends ICMP reply message
Workaround	N/A
Fix Expected	TBD

11.4 Host

ID	MCS00127283
Title	Free RTOS OS is not stable when running UDP traffic and Ping
Description	Known issue with free RTOS that can cause deadlock
Impact	Deadlock in OS
Workaround	Use TI RTOS
Fix Expected	TBD

ID	MCS00130291
Title	WPS PIN Connect might fail if pin code is not null-terminated
Description	If the PIN code from the HOST is not null terminated the string can be wrongly used and in some cases the connection doesn't succeed
Impact	Connection doesn't succeed
Workaround	Add null termination to the PIN code string
Fix Expected	TBD

11.5 Power Management

ID	MCS00128947
Title	In Enterprise network the device will Frequently Wakeup due to IPV4 BRDCST Rx frames
Description	On enterprise network there a lot of BRDCST packets
Impact	Increase in power consumption

Workaround	Add a filter to block the broadcast packets (will be different for each enterprise network)
Fix Expected	Not expected – the filter is specific to the network

11.6 Applications

ID	MCS00128652
Title	HTTP Server: When entering the internal web page with Huawei phone, GUI is zoomed in
Impact	Web page displayed incorrectly
Workaround	N/A
Fix Expected	TBD

ID	MCS00128658
Title	HTTP Server: GUI is only displayed correctly after refresh in Nexus one phone
Impact	Web page displayed incorrectly
Workaround	N/A
Fix Expected	TBD

ID	MCS00128130
Title	HTTP Server: With In Dolphin web application cursor is sometimes seen on two rows simultaneously
Impact	Double cursor
Workaround	N/A
Fix Expected	TBD

ID	MCS00128425
Title	HTTP Server: Default Galaxy Tablet browser shows wrong authentication GUI
Impact	Wrong GUI is displayed
Workaround	Use different browser or disable authentication option
Fix Expected	TBD

ID	MCS00129384
Title	HTTP Server: GUI - In IE7 browser, GUI boarder is truncated
Impact	Web page displayed incorrectly
Workaround	Use different browser

Fix Expected	Not Expected due to browser issue

ID	MCS00129385
Title	HTTP Server: On some mobile devices, "Wi-Fi Connectivity" & "Profile Settings" are seen in two lines
Impact	Web page displayed incorrectly
Workaround	Use different browser
Fix Expected	Not Expected due to browser issue

ID	MCS00129390
Title	HTTP Server: On some mobile devices "some parameters were changed, System may require reset" is seen in two lines
Impact	Web page displayed incorrectly
Workaround	Use different browser
Fix Expected	Not Expected due to browser issue

ID	MCS00129392
Title	HTTP Server: On some mobile devices all tabs are merged together in browser
Impact	Web page displayed incorrectly
Workaround	Use different browser
Fix Expected	Not Expected due to browser issue

ID	MCS00129393, MCS00129394, MCS00129397, MCS00129399, MCS00129401
Title	HTTP Server: On some mobile devices lines and tabs are displayed incorrectly
Impact	Web page displayed incorrectly
Workaround	Use different browser
Fix Expected	Not Expected due to browser issue

ID	MCS00130155
Title	HTTP Server: Can't configure the Default Gateway from the HTTP Server pages (with default tokens)
Impact	When working with default HTTP server pages, only default gateway can be used (192.168.1.xxx)
Workaround	Add proprietary token to modify the default Gateway for user pages
Fix Expected	Next Revision

ID	MCS00130240
Title	DNS Server: In AP mode the internal DNS Server can't be disabled
Impact	Can't disabled the internal DNS server – can't use external DNS server in AP mode
Workaround	N/A
Fix Expected	TBD

ID	MCS00130241
Title	HTTP Server: 'AnyP2P' and 'Auto smart config' policies can be changed only in station or P2P mode

Impact	Can’t change these specific configurations from the HTTP server in AP mode
Workaround	Change the configurations in STA mode
Fix Expected	TBD

11.7 Supported API

All the APIs are documented with the new SimpleLink Host Driver HTML Programmer's Guide.

11.7.1 API Modified/Added/Removed comparing to former release

API	Silo	Status
sl_DeviceSet	Device	Changed to sl_DevSet
sl_DeviceGet	Device	Changed to sl_DevGet
sl_Start	Device	Added const to pDevname
sl_UartSetMode	Device	New API
sl_NetAppGetServiceList	NetApp	New API
sl_WlanProfileGet	Wlan	Changed prototype
sl_WlanCfgSet	Wlan	Changed to Sl_WlanSet
sl_WlanCfgGet	Wlan	Changed to Sl_WlanGet
MACROS	All	Removed

File name change: nvmem.c, nvmem.h are now fs.h,fs.c