

# ***Bluetooth* Mesh Software 1.3.0**

<b>Software Version</b>	1.3.0
<b>Software Status</b>	GA
<b>Release Date</b>	13th of June, 2018
<b>Affected Products</b>	EFR32BG12/MG12 EFR32BG13/MG13 xGM13P Bluetooth and mesh modules

## **Changes: 1.3.0 compared to 1.2.0**

### **New Features**

<b>Feature</b>	<b>Explanation</b>
Low power feature	Bluetooth mesh low power feature support added.
Friend feature	Bluetooth mesh friend feature support added.
Mesh models	Color temperature light (CTL) model support (server, temperature server, setup server, and client)
Static OoB from application	If static OoB data is not stored in PS store, the Bluetooth mesh stack may request it from the application during provisioning.
OoB capability requirements	Device can abort provisioning if it needs OoB authentication but Provisioner does not use it.
Bluetooth LE and mesh feature selection for code size optimization (GCC only)	A more fine-grained LE and mesh feature initialization functions are provided so the application can choose the required features to optimize flash consumption,
802.11 co-existence (PTA)	802.11 co-existence feature is included in the 1.3.0 SDK.
GCC 7.2.1 support	Bluetooth mesh SDK supports GCC 7.2.1 for better link time optimization and smaller code size. GCC 4.9.3 support deprecated.
Bluetooth qualifications	Bluetooth mesh profile (QDID: 114904) and model (QDID: 114852) qualifications updated to reflect the new features.

Feature	Explanation
Android and iOS Application Development Kits (ADKs)	The Bluetooth mesh SDK 1.3.0 now includes the Bluetooth mesh ADKs for both Android and iOS platforms enabling iOS and Android application development.
LZMA compression and decompression for reduced firmware update space and faster upload	Simplicity commander tool can now compress GBL firmware images with LZMA providing ~30% smaller image size. Gecko bootloader can decompress the LZMA compressed images.

## Quality Improvements

- Multiple bug fixes and quality improvements
- All example applications updates
- Link time optimization added to reduce flash consumption
- Improved message queue management to always have memory for API commands even if TX/RX buffers are full
- Unprovisioned device beacon interval is configurable
- Provisioner does not reuse the addresses of removed devices
- API documentation improved

## Fixed Known Issues since the previous Release

ID	Issue	Explanation
N/A	Low power and friend features	Features implemented and qualified

## Known Issues in this Release

ID	Issue	Explanation
N/A	Mesh models	Sensor, time, scenes and HSL, XYZ and LC model are not implemented yet
N/A	Mesh model qualifications	Mesh client model Bluetooth qualifications are under work
3046	No command to remove only mesh keys from persistent storage	Currently the only ways to clear mesh data from persistent storage are to factory reset the device, which

ID	Issue	Explanation
		also removes non-mesh data, or to delete mesh keys one by one
3660	UART DFU issue	UART DFU is not working
3878	Mesh GATT events visible to the application	Application will get the BGAPI events related to GATT provisioning and proxying; it needs to ignore them

## Changes: 1.2.0 compared to 1.2.0 (build 125)

### Quality Improvements

Multiple issues fixed in the protocol stack

### Fixed Known Issues since the previous Release

ID	Issue	Explanation
2044	Stack de-initialization	BGAPI command for informing stack of system power down is implemented; application is responsible for calling it
2162	Provisioner resends data	Provisioner resends only until it gets an acknowledgement from the device
2728	Subscription lists are not shared	Subscriptions lists between models that have bound states are shared
2769	Board configuration issue	Sample application hardware configuration issues on certain board revisions (BRD4103A Rev A01 and A02, BRD4161A Rev A01 and A02) have been fixed
2889	Proxy service advertisement stops	GATT proxy service advertisement is continuous
3200	GATT proxy disconnection issue	GATT proxy disconnection does not prevent correct advertising or new proxy connections
3248	PA configuration issue	Sample applications for MGM12P (BRD4303) have PA configuration
3297	Embedded Provisioner issue with re-provisioning	Issue with embedded provisioner device database cleanup was fixed
3521	Device composition data BGAPI handling issue	Issue in parsing long DCD data was fixed
3801	GATT proxy configuration message replay checks	GATT proxy configuration messages are now replay checked
3826	Too frequent use of persistent storage	Corrected the write interval for element sequence numbers in persistent storage

ID	Issue	Explanation
3850	GATT provisioning issue with low memory	GATT provisioning retries sending GATT messages after a transient out of memory condition

## Known Issues in this Release

ID	Issue	Explanation
N/A	Low power and friendship features	The low power and friendship features are not yet implemented
N/A	Mesh models	Implementation of sensors, time/scenes and some lighting models is not yet done
3046	No command to remove only mesh keys from persistent storage	Currently the only ways to clear mesh data from persistent storage are to factory reset the device, which also removes non-mesh data, or to delete mesh keys one by one
3660	UART DFU issue	UART DFU is not working
3878	Mesh GATT events visible to the application	Application will get the BGAPI events related to GATT provisioning and proxying; it needs to ignore them.

## Changes: 1.2.0 (build 125) compared to 1.1.0 (build 88)

### Quality Improvements

Throughput and latency related performance improvements

Multiple issues fixed in the protocol stack

Multiple stack configuration parameters have been made available for customer testing purposes

### Fixed Known Issues since the previous Release

ID	Issue	Explanation
1723	Mesh/LE interoperability	Advertisement sets used by Mesh are documented. Other advertisement sets can be freely used by the application.
1731	Long message memory usage	Memory usage of long application messages has been optimized
1746	Resource allocation control to application	Application now control Mesh stack configuration and memory usage
2559	Maximum length application messages do not work	Corrected memory handling in sending maximum length application messages (380 bytes including opcode).
2579	Command to request IV index update	BGAPI commands to request IV index update and to check IV index update status have been implemented
3158	GATT proxy server notifications	GATT proxy server is an internal component that the application should not directly control. BGAPI has been adjusted accordingly
3190	Vendor model memory leak	Vendor model memory leak has been corrected
3269	Generic client model callback not functioning	Generic client callback code used wrong return value that discarded correct status values; fixed.
3339	Scanning stops after a while	Link layer issue in radio event handling has been fixed.
3507	Timings are not correct with BG13	Timer initialization in BG13 devices has been fixed

ID	Issue	Explanation
3696	Relay latency interval is fixed	Relay latency interval (interval of delay before relaying a network PDU) has been made configurable
3758	Scanning and advertisement parameters are not adjustable	Scanning and advertisement parameters for Mesh advertisements have been made adjustable with BGAPI commands; these should be used only in test environments
3793	Adjusting stack parameters requires a Provisioner	Multiple parameters (network retransmit count and interval, relay retransmit count and interval) have been made adjustable with BGAPI commands; these should be used only in test environments, not in production environment where Provisioner controls those values.
3825	Persistent storage written to too often	Element sequence numbers are written too often into persistent storage, causing unnecessary wear on flash.
3847	Lightness server default range issue	Fixed the default (not set by application) range for lightness server to be the full 16 bit value range

## Known Issues in this Release

ID	Issue	Explanation
N/A	Low power and friendship features	The low power and friendship features are not yet implemented
N/A	Mesh models	Implementation of sensors, time/scenes and some lighting models is not yet done
2044	Stack de-initialization	BGAPI command for informing stack of system power down not yet implemented
2162	Provisioner resends data	In very rare circumstances the Provisioner does not detect the provisioning has ended and continues to send provisioning PDUs
2728	Subscription lists are not shared	Subscriptions lists between root models and models that extend them should be shared (only one copy)
2769	Board configuration issue	Sample application hardware configuration has issues on certain board revisions (BRD4103A Rev A01 and A02, BRD4161A Rev A01 and A02)

ID	Issue	Explanation
2889	Proxy service advertisement stops	GATT proxy service advertisement should be continuous, but stops after a time
3046	No command to remove only mesh keys from persistent storage	Currently the only way to clear mesh data from persistent storage is to factory reset the device. This also removes non-mesh data.
3200	GATT proxy disconnection issue	GATT proxy disconnection may lead to a situation where node sends garbled service advertisements and is not ready for another connection
3248	PA configuration issue	Sample applications for MGM12P (BRD4303) are missing PA configuration
3297	Embedded Provisioner issue with re-provisioning	When running the Provisioner on BG12/BG13, resetting a node and re-provisioning it may have issues with key uploading
3521	Device composition data BGAPI handling issue	Events for handling device composition data in embedded Provisioner BGAPI interface are incorrect for invalid data and long data
3801	GATT proxy configuration message replay checks	GATT proxy configuration messages are not replay checked, but should be
3850	GATT provisioning issue with low memory	Application has to allocate enough heap from the system so that provisioning communication does not fail due to lack of buffers.



## Changes: 1.1.0 (build 88) compared to 1.0.1 (build 25)

### New Features

Feature	Explanation
Qualification	Mesh Profile 1.0 mandatory feature qualification (Declaration ID D037122)

### Quality Improvements

Specification conformance fixes related to qualification testing  
Improvements in concurrent use of *Bluetooth* and *Bluetooth* Mesh  
Throughput and latency related performance improvements

### Fixed Known Issues since the previous Release

ID	Issue	Explanation
N/A	Bluetooth qualification	The implementation was not Bluetooth qualified

### Known Issues in this Release

ID	Issue	Explanation
N/A	Low power and friendship features	The low power and friendship features are not yet implemented
N/A	Mesh models	Implementation of sensors, time/scenes and some lighting models is not yet done
1723	Mesh/LE interoperability	Due to limitations in the beta care must be taken with concurrent advertisements with LE and mesh (predefined advertisement sets are used)
1731	Long message memory usage	Memory usage of long application messages should be optimized
1746	Resource allocation control to application	Beta release allocates a predefined amount of resources to the stack
2044	Stack de-initialization	BGAPI command for informing stack of system power down not yet implemented

ID	Issue	Explanation
2162	Provisioner resends data	In rare circumstances the Provisioner does not detect the provisioning has ended and continues to send provisioning PDUs
2579	Command to request IV index update	Stack implements IV index update, but BGAPI command for application to request it is missing
3158	GATT proxy server notifications	The GATT proxy server does not inform the user with mesh_proxy_connected and mesh_proxy_disconnected events. The proxy connections otherwise work.

# *Bluetooth* Mesh Software 1.0.1 build 25

Software Version	1.0.1 build 25
Software Status	Beta
Release Date	1st of August, 2017
Affected Products	EFR32BG12/MG12 EFR32BG13/MG12

## Changes: 1.0.1 (build 25) compared to 1.0.0 (build 22)

### Quality Improvements

GATT connection robustness improvements  
Stack library shrunk in size

### Fixed Known Issues since the previous Release

ID	Issue	Explanation
2633	Cleanup after incomplete GATT connection	Stack did not properly clean up its state after an incomplete GATT provisioning or proxy connection, resulting in device not becoming connectable after connection teardown.

### Known Issues in this Release

ID	Issue	Explanation
N/A	Bluetooth qualification	The implementation has not yet been Bluetooth qualified
N/A	Low power and friendship features	The low power and friendship features are not yet implemented
N/A	Mesh models	Implementation of sensors, time/scenes and some lighting models is not yet done
1723	Mesh/LE interoperability	Due to limitations in the beta care must be taken with concurrent advertisements with LE and mesh
1731	Long message memory usage	Memory usage of long application messages should be optimized

ID	Issue	Explanation
1746	Resource allocation control to application	Beta release allocates a predefined amount of resources to the stack
2044	Stack de-initialization	BGAPI command for informing stack of system power down not yet implemented
2162	Provisioner resends data	In rare circumstances the Provisioner does not detect the provisioning has ended and continues to send provisioning PDUs
2579	Command to request IV index update	Stack implements IV index update, but BGAPI command for application to request it is missing

# ***Bluetooth* Mesh Software 1.0.0 build 22**

<b>Software Version</b>	1.0.0 build 22
<b>Software Status</b>	Beta
<b>Release Date</b>	18th of July, 2017
<b>Affected Products</b>	EFR32BG12/MG12 EFR32BG13/MG12

## **Features in the First Release**

<b>Feature</b>	<b>Explanation</b>
Mesh Core 1.0	<i>Bluetooth</i> mesh core 1.0 compliant stack implementing relay and GATT proxy features
Mesh Models 1.0	Bluetooth mesh Models 1.0 compliant application model implementation including Generic models, Light Lightness models and vendor models

## **Fixed Known Issues since the previous Release**

<b>ID</b>	<b>Feature</b>	<b>Explanation</b>
N/A	N/A	First public release

## **Known Issues in this Release**

<b>ID</b>	<b>Issue</b>	<b>Explanation</b>
N/A	Bluetooth qualification	The implementation has not yet been Bluetooth qualified
N/A	Low power and friendship features	The low power and friendship features are not yet implemented
N/A	Mesh models	Implementation of sensors, time/scenes and some lighting models is not yet done
1723	Mesh/LE interoperability	Due to limitations in the beta care must be taken with concurrent advertisements with LE and mesh

ID	Issue	Explanation
1731	Long message memory usage	Memory usage of long application messages should be optimized
1746	Resource allocation control to application	Beta release allocates a predefined amount of resources to the stack
2044	Stack de-initialization	BGAPI command for informing stack of system power down not yet implemented
2162	Provisioner resends data	In rare circumstances the Provisioner does not detect the provisioning has ended and continues to send provisioning PDUs
2579	Command to request IV index update	Stack implements IV index update, but BGAPI command for application to request it is missing