



Release Information Anybus Wireless Bolt/Bridge II

7714– Anybus Wireless
Bolt/Bridge II
SW
Version 1.6.3
2018-09-03

This release contains:

Type	File	Label	File updated in this release
This document	-	-	Yes
Update Package	7714_FW_HMS_1.6.3-FS2.5.1_Build_34661.fwz	1.6.3	Yes
+ Firmware	Firmware.signed.bin	1.6.3	Yes
+ Filesystem	HMS-FS.zip	2.5.1	Yes
+ Bootloader	7714_BOOT_2.2.0.bin	2.2.0	No



Reason for release:

Service pack 3 requested features are now included.

- Bluetooth Low Energy with mapping to AT-commands. BLE Central.
- MIMO + 802.11n (n-rates)
- 802.11r (fast roaming)
- PROFIsafe macro setting via web-GUI, Easy Config button and AT-commands
- Save and Restore configuration to/from file
- Factory Reset not needed during Firmware Update
- Firmware Update via WiFi/Bluetooth, i.e. settings are remembered during FW update.
- Bug fixes concerning stability
- PANU-PANU macro via EasyConfig function
- Name based + MAC based PANU-PANU
- MS-CHAP
- 802.11d - Additional channels for 2,4/5GHz (channel 12, 13, 120, 124, 128) depending on Regulatory Domain scan according to IEEE 802.11d (World mode Enable/Disable).

Title	Category	Description	Issue(s)
Make getRSSI thread safe	Bug fix	Station mode is now more stable when RSSI value is read from the driver from one location.	A7714-383
Add Easy config mode for PANU-PANU to be compliant with EPA	New functionality	Easy Config modes for Bluetooth PANU-PANU modes (with and without PROFINET) are added.	A7714-129
Continuous calling status.json at powerup can make it crash due to out of memory	Bug fix	Webpage does not spam questions to device at power up any more. This previous behaviour was very memory consuming.	A7714-385
Enable support for UNII band 3 (channel 11-13,149-165)	New functionality	Support for ETSI channels are now available when "world mode " is deactivated. This can be done with AT*WWM. The wanted channels shall be set with AT*WSCHL.	A7714-92
Web UI shows "Connected to (SSID)" even when disconnected.	Bug fix	The web UI now shows a "-" in the "Connected to (SSID)" field when not connected.	A7714-95
Boot 1486/1492	Bug fix	Improved startup stability.	A7714-143
Duplicates in the paired Bluetooth devices list in the web interface	Bug fix	Removed duplicates of the paired devices in the Bluetooth Settings page.	A7714-176
Description of easy config mode 4 lacks info in web UI.	Bug fix	Changed description of Easy Config mode 4 in web UI. Added information about mode 1,7,8 and 9.	A7714-324
"number of restarts" not incremented properly after "AT*AMDUMP=1".	Bug fix	AMDUMP? now also counts the first restart.	A7714-352
Update Layout of WebUI	Bug fix	Changed order on System Settings web page for the Settings Backup.	A7714-372



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Title	Category	Description	Issue(s)
BT PANU-PANU shall be configurable with NAME as well as MAC.	New functionality	Easy config for Bluetooth PANU-PANU can now be configured to use MAC, name or both for their connection. To choose use AT*BPPCM.	A7714-386
Web UI can not handle AT*WSCHL with all channels.	Bug fix	Now the user gets a warning if trying to send an AT command longer than 118 characters in the web UI.	A7714-394
AT*AMIC? returns *PIC: in response	Bug fix	Now AT command AT*AMIC returns *AMIC:<value> instead of *PIC:<value>.	A7714-353
AT*AMSERIAL? returns *PSERIAL: in response	Bug fix	Now AT*AMSERIAL? returns *AMSERIAL:<value> instead of *PSERIAL:<value>	A7714-354
Driver asserts during programming of radio chip at startup	Bug fix	Stability fixes during start up	A7714-149
Profisafe Easy Config mode	New functionality	Easy Config with ProfiSafe is added.	A7714-221
Text jump under each other on mobile view	Bug fix	Improved text on small screens.	A7714-256
No Gratuitous ARP packets are dispatched after receiving an IP address from a DHCP server	Bug fix	Gratuitous ARP is now sent when IP address is assigned from a DHCP.	A7714-268

Affected functionality

		Description
Affected functionality	<input type="checkbox"/> Bootloader <input checked="" type="checkbox"/> AT interface <input checked="" type="checkbox"/> GUI interface (Web pages) <input checked="" type="checkbox"/> Default configuration settings <input type="checkbox"/> Network conformity <input type="checkbox"/> Application interface <input checked="" type="checkbox"/> WLAN interface <input checked="" type="checkbox"/> Bluetooth interface <input type="checkbox"/> IT-functionality <input checked="" type="checkbox"/> Stability <input type="checkbox"/> Other	This release applies for both AWB II and Bolt

Compatibility:

This release works on Anybus Wireless Bolt and AWB II.

Any device with FW version earlier than version 1.1.6 require an update of boot loader before installation of this version. This is done by upgrading to 1.1.6 first.

Hardware

This firmware can run on Anybus Wireless Bolt hardware as well as the AWB II hardware.

PCB	Compatible
1029-1.0.1	Not Compatible



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PCB	Compatible
1029-1.1.1	Compatible
1029-1.2.1	Compatible
1030-1.0.1	Compatible
1030-1.1.1	Compatible
1030-1.2.1	Compatible
1032-1.0.1	Compatible

Software upgrade

Factory reset shall be done before the installation of new version if old version is below 1.3.x.

If old version is 1.3.x or higher it will keep its settings after upgrade.

SW upgrade shall be done over Ethernet.

The firmware shall be upgraded using the *firmware update* tab on the web interface of the Anybus Wireless Bolt/Bridge II which by default is available at <http://192.168.0.99>.

Known limitations:

Title	Description	Issue(s)
Safari does not always present status on FW upgrade in web UI	When Safari is used at FW update, the status information some times is missing. In that case wait 4 minutes before re-start of the module, to make sure that FW update is ready.	
DHCP relay incorrectly encapsulates relayed requests when using layer 2 bridging.	When the DHCP relay functionality is enabled on an AWB/Bolt WLAN client, which is connected to an AWB/Bolt WLAN AP running a DHCP server, the relay will encapsulate the relayed requests causing the server to attempt to reply to the relays ethernet MAC address causing the relay to miss the reply.	A7714-169
DHCP relay does not run over Bluetooth	It uses the Ethernet MAC address and the responses from the server are dropped for some reason.	A7714-171
Refresh of web ui with cache disable ends up with 404 for index.html	When refreshing the web ui and having cache disable in chrome sometime lwip delivers the 404 file instead of index.html.	A7714-232
Uptime resets after 24 days	The uptime wraps around after 2 ³¹ ms which is about 24 days.	A7714-350
AT*BGDCD don't return 128-bit UUID	It returns 16 bits of the 128-bit UUID for Bluetooth Low Energy when discovering descriptors which has 128-bits UUID.	A7714-371
Wrong IP address on client after PANU-PANU with Easy config	If Factory reset is not done before Easy config for PANU-PANU the IP adress might be wrong	A7714-419



Updates in earlier versions:

Updates in version 1.5.3:

Fix stability issues:

- The WLAN client could enter a state where it never reconnected. This could happen due to roaming issues or even bad connection to the accesspoint. Now the unit re-connects within one second.
- The BT client could stop roaming and BT would only work again by re-start of the unit.
- Also a scheduler problem could occur after 24 days where the “Link Quality” LEDs where lit with lower intensity and the unit needed power recycle to work again.

Now the unit will keep its settings when doing an update from version 1.3.x or later.

The uptime is corrected but is now reset due to wraparound after 2^{31} ms which is about 24 days.

Key reinstallation attack vulnerabilities (KRACK) have been fixed.

Title	Category	Description	Issue(s)
Keep settings at firmware update	New functionality	The unit will now keep the setting when doing an update from a version 1.3.x or later.	A7714-59
Bootloader calculates invalid CRC with some FWZ files.	Bug fix	The bootloader will now calculate a valid CRC for the bootloader and the application files inside the FWZ file regardless if the FWZ file has been packed so that the first block of one of those files is less than 8 bytes long,	A7714-99
Low intensity on LEDS and client not accessible over WLAN after 4 weeks uptime	Bug fix	Made a change in miniar and added a "-" according to an issue report in github.	A7714-130
Connecting to an AP with bad RSSI when roaming can lock the unit.	Bug fix	Fix the possibility to create a lock when roaming to a new AP with lower RSSI value than S-register 4003, Trigger Scan RSSI.	A7714-349
System uptime is behind.	Bug fix	The system uptime presented in the web UI and by AT*AMSTAT is now more accurate.	A7714-43
WLAN roaming is triggered by floating DI on Bolt RJ45/PoE	Bug fix	Fixed an issue that could cause spontaneous roaming on Bolt RJ45/PoE hardware.	A7714-136
Bootloader interrupts interfere with application startup	Bug fix	Fixed an issue which caused SysTick to assert before initialisation.	A7714-144
Add number of WLAN recoveries to AT*AMDUMP.	New functionality	The AT*AMDUMP command should return the number of WLAN recoveries performed since boot.	A7714-303
AWB II crash (operation stops) after long time operation	Bug fix	A fix is done in ARMs Mbed scheduler which had a bug which made the unit to crash after 24 days of operation if the unit was configured to have any future scheduled tasks.	A7714-185
BT driver crash at roaming – restart required	Bug fix	A fix is done in when reading link quality more than once.	A7714-299



Affected functionality

		Description
Affected functionality	<input checked="" type="checkbox"/> Bootloader <input checked="" type="checkbox"/> AT interface <input type="checkbox"/> GUI interface (Web pages) <input type="checkbox"/> Default configuration settings <input type="checkbox"/> Network conformity <input type="checkbox"/> Application interface <input checked="" type="checkbox"/> WLAN interface <input checked="" type="checkbox"/> Bluetooth interface <input type="checkbox"/> IT-functionality <input checked="" type="checkbox"/> Stability <input type="checkbox"/> Other	This release applies for both AWB II and Bolt

Compatibility:

This release works on Anybus Wireless Bolt and AWB II.

Any device with FW version earlier than version 1.1.6 require an update of boot loader before installation of this version. This is done by upgrading to 1.1.6 first.

Hardware

This firmware can run on Anybus Wireless Bolt hardware as well as the AWB II hardware.

PCB	Compatible
1029-1.0.1	Not Compatible
1029-1.1.1	Compatible
1029-1.2.1	Compatible
1030-1.0.1	Compatible
1030-1.1.1	Compatible
1030-1.2.1	Compatible

Software upgrade

Factory reset shall be done before the installation of new version if old version is below 1.3.x.

If old version is 1.3.x or higher it will keep its settings after upgrade.

SW upgrade shall be done over Ethernet.

The firmware shall be upgraded using the *firmware update* tab on the web interface of the Anybus Wireless Bolt/Bridge II which by default is available at <http://192.168.0.99>.

Known limitations:

Title	Description	Issue(s)
Safari does not always present status on FW upgrade in web UI	When Safari is used at FW update, the status information some times is missing. In that case wait 4 minutes before re-start of the module, to make sure that FW update is ready.	



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DHCP relay incorrectly encapsulates relayed requests when using layer 2 bridging.	When the DHCP relay functionality is enabled on an AWB/Bolt WLAN client, which is connected to an AWB/Bolt WLAN AP running a DHCP server, the relay will encapsulate the relayed requests causing the server to attempt to reply to the relays ethernet MAC address causing the relay to miss the reply.	A7714-169
DHCP relay does not run over Bluetooth	It uses the Ethernet MAC address and the responses from the server are dropped for some reason.	A7714-171
Refresh of web ui with cache disable ends up with 404 for index.html	When refreshing the web ui and having cache disable in chrome sometime lwip delivers the 404 file instead of index.html.	A7714-232
Uptime resets after 24 days	The uptime wraps around after 2 ³¹ ms which is about 24 days.	A7714-350



Updates in version 1.3.12:

This is a release candidate to support Bolt RJ45 (Power Over Ethernet).

The following changes have been made in this release:

- Support for new SPI flash from ISSI (IS25WP032) in both bootloader and application.
- Support for LEDs on new hardware for Bolt RJ45 (1032-1.0.1) in both bootloader and application.
- Production AT command PWLED is updated to support the new hardware.
- Changed easy config WLAN channel from 1 to 11.
- WLAN TX testmode now works.

Affected functionality

		Description
Affected functionality	<input checked="" type="checkbox"/> Bootloader <input checked="" type="checkbox"/> AT interface <input type="checkbox"/> GUI interface (Web pages) <input checked="" type="checkbox"/> Default configuration settings <input type="checkbox"/> Network conformity <input type="checkbox"/> Application interface <input type="checkbox"/> WLAN interface <input type="checkbox"/> Bluetooth interface <input type="checkbox"/> IT-functionality <input type="checkbox"/> Stability <input type="checkbox"/> Other	This release applies for both AWB II and Bolt

Compatibility:

This release works on Anybus Wireless Bolt, Bolt RJ45 and AWB II.

Any device with FW version earlier than version 1.1.6 require an update of boot loader before installation of this version. This is done by upgrading to 1.1.6 first.

Hardware

This firmware can run on Anybus Wireless Bolt hardware as well as the AWB II hardware.

Product	PCB	Compatible
Anybus Wireless Bolt	1029-1.0.1	Not Compatible
Anybus Wireless Bolt	1029-1.1.1	Compatible
Anybus Wireless Bolt	1029-1.2.1	Compatible
Anybus Wireless Bridge II	1030-1.0.1	Compatible
Anybus Wireless Bridge II	1030-1.1.1	Compatible
Anybus Wireless Bridge II	1030-1.2.1	Compatible
Anybus Wireless Bolt RJ45 (Power Over Ethernet)	1032-1.0.1	Compatible



Software upgrade

Factory reset shall be done before the installation of new version.
SW upgrade shall be done over Ethernet.

The firmware shall be upgraded using the *firmware update* tab on the web interface of the Anybus Wireless Bolt/Bridge II which by default is available at <http://192.168.0.99>.

Known limitations:

Title	Description	Issue(s)
Safari does not always present status on FW upgrade in web UI	When Safari is used at FW update, the status information some times is missing. In that case wait 4 minutes before re-start of the module, to make sure that FW update is ready.	
DHCP relay incorrectly encapsulates relayed requests when using layer 2 bridging.	When the DHCP relay functionality is enabled on an AWB/Bolt WLAN client, which is connected to an AWB/Bolt WLAN AP running a DHCP server, the relay will encapsulate the relayed requests causing the server to attempt to reply to the relays ethernet MAC address causing the relay to miss the reply.	849
DHCP relay does not run over Bluetooth	It uses the Ethernet MAC address and the responses from the server are dropped for some reason.	847
Refresh of web ui with cache disable ends up with 404 for index.html	When refreshing the web ui and having cache disable in chrome sometime lwip delivers the 404 file instead of index.html.	577



Updates in version 1.3.9:

The problem solved in this release is only an issue in production when the SPI flash is empty.

The following changes have been made in this release:

- Fix instable HW detection pins due to weak internal pulldown resistor: 921

Affected functionality

		Description
Affected functionality	<input type="checkbox"/> Bootloader <input type="checkbox"/> AT interface <input type="checkbox"/> GUI interface (Web pages) <input type="checkbox"/> Default configuration settings <input type="checkbox"/> Network conformity <input type="checkbox"/> Application interface <input type="checkbox"/> WLAN interface <input type="checkbox"/> Bluetooth interface <input type="checkbox"/> IT-functionality <input checked="" type="checkbox"/> Stability <input type="checkbox"/> Other	This release applies for both AWB II and Bolt

Compatibility:

This release works on Anybus Wireless Bolt and AWB II.

Any device with FW version earlier than version 1.1.6 require an update of boot loader before installation of this version. This is done by upgrading to 1.1.6 first.

Hardware

This firmware can run on Anybus Wireless Bolt hardware as well as the AWB II hardware.

PCB	Compatible
1029-1.0.1	Not Compatible
1029-1.1.1	Compatible
1029-1.2.1	Compatible
1030-1.0.1	Compatible
1030-1.1.1	Compatible
1030-1.2.1	Compatible

Software upgrade

Factory reset shall be done before the installation of new version.

SW upgrade shall be done over Ethernet.

The firmware shall be upgraded using the *firmware update* tab on the web interface of the Anybus Wireless Bolt/Bridge II which by default is available at <http://192.168.0.99>.

Known limitations:



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Title	Description	Issue(s)
Safari does not always present status on FW upgrade in web UI	When Safari is used at FW update, the status information some times is missing. In that case wait 4 minutes before re-start of the module, to make sure that FW update is ready.	
DHCP relay incorrectly encapsulates relayed requests when using layer 2 bridging.	When the DHCP relay functionality is enabled on an AWB/Bolt WLAN client, which is connected to an AWB/Bolt WLAN AP running a DHCP server, the relay will encapsulate the relayed requests causing the server to attempt to reply to the relays ethernet MAC address causing the relay to miss the reply.	849
DHCP relay does not run over Bluetooth	It uses the Ethernet MAC address and the responses from the server are dropped for some reason.	847
Refresh of web ui with cache disable ends up with 404 for index.html	When refreshing the web ui and having cache disable in chrome sometime lwip delivers the 404 file instead of index.html.	577



Updates in version 1.3.8:

The following changes have been made in this release:

- Updated radio FW to not require power cycle at lost WLAN connection in noisy environments
- GUI changes properly at factory reset: 910
- Easy Config stable configuration: 896
- Easy Config modes for PROFINET: 912, 722, 916
- DHCP server table: 380, 863
- DHCP server numbering: 446
- Branding fixes: 891, 875
- WLAN authentication mode (PEAP/LEAP): 243, 713, 581, 583,
- WLAN issues: 879
- Fixes in AT commands: AT*AILVIE
- New AT commands: AT*ANDHCPSTA, AT*ANDHCPTAB
- Improved status update functions in web UI, especially after FW update

Affected functionality

		Description
Affected functionality	<input type="checkbox"/> Bootloader <input checked="" type="checkbox"/> AT interface <input checked="" type="checkbox"/> GUI interface (Web pages) <input checked="" type="checkbox"/> Default configuration settings <input type="checkbox"/> Network conformity <input type="checkbox"/> Application interface <input checked="" type="checkbox"/> WLAN interface <input checked="" type="checkbox"/> Bluetooth interface <input type="checkbox"/> IT-functionality <input checked="" type="checkbox"/> Stability <input type="checkbox"/> Other	This release applies for both AWB II and Bolt

Compatibility:

This release works on Anybus Wireless Bolt and AWB II.

Any device with FW version earlier than version 1.1.6 require an update of boot loader before installation of this version. This is done by upgrading to 1.1.6 first.

Hardware

This firmware can run on Anybus Wireless Bolt hardware as well as the AWB II hardware.

PCB	Compatible
1029-1.0.1	Not Compatible
1029-1.1.1	Compatible
1029-1.2.1	Compatible
1030-1.0.1	Compatible
1030-1.1.1	Compatible
1030-1.2.1	Compatible



Software upgrade

Factory reset shall be done before the installation of new version.
SW upgrade shall be done over Ethernet.

The firmware shall be upgraded using the *firmware update* tab on the web interface of the Anybus Wireless Bolt/Bridge II which by default is available at <http://192.168.0.99>.

Known limitations:

Title	Description	Issue(s)
Safari does not always present status on FW upgrade in web UI	When Safari is used at FW update, the status information some times is missing. In that case wait 4 minutes before re-start of the module, to make sure that FW update is ready.	
DHCP relay incorrectly encapsulates relayed requests when using layer 2 bridging.	When the DHCP relay functionality is enabled on an AWB/Bolt WLAN client, which is connected to an AWB/Bolt WLAN AP running a DHCP server, the relay will encapsulate the relayed requests causing the server to attempt to reply to the relays ethernet MAC address causing the relay to miss the reply.	849
DHCP relay does not run over Bluetooth	It uses the Ethernet MAC address and the responses from the server are dropped for some reason.	847
Refresh of web ui with cache disable ends up with 404 for index.html	When refreshing the web ui and having cache disable in chrome sometime lwip delivers the 404 file instead of index.html.	577



Updates in version 1.3.4:

The following changes have been made in this release:

- Updated radio FW to not require power cycle at lost WLAN connection in noisy environments
- Easy Config stable configuration: 896
- Easy Config modes for PROFINET: 912, 722, 916
- DHCP server table: 380, 863
- DHCP server numbering: 446
- Branding fixes: 891, 875
- WLAN authentication mode (PEAP/LEAP): 243, 713, 581, 583,
- WLAN issues: 879
- Fixes in AT commands: AT*AILVIE
- New AT commands: AT*ANDHCPSTA, AT*ANDHCPTAB

Affected functionality

		Description
Affected functionality	<input type="checkbox"/> Bootloader <input checked="" type="checkbox"/> AT interface <input checked="" type="checkbox"/> GUI interface (Web pages) <input checked="" type="checkbox"/> Default configuration settings <input type="checkbox"/> Network conformity <input type="checkbox"/> Application interface <input checked="" type="checkbox"/> WLAN interface <input checked="" type="checkbox"/> Bluetooth interface <input type="checkbox"/> IT-functionality <input checked="" type="checkbox"/> Stability <input type="checkbox"/> Other	This release applies for both AWB II and Bolt

Compatibility:

This release works on Anybus Wireless Bolt and AWB II.

Any device with FW version earlier than version 1.1.6 require an update of boot loader before installation of this version. This is done by upgrading to 1.1.6 first.

Hardware

This firmware can run on Anybus Wireless Bolt hardware as well as the AWB II hardware.

PCB	Compatible
1029-1.0.1	Not Compatible
1029-1.1.1	Compatible
1029-1.2.1	Compatible
1030-1.0.1	Compatible
1030-1.1.1	Compatible
1030-1.2.1	Compatible



Software upgrade

Factory reset shall be done before the installation of new version.
SW upgrade shall be done over Ethernet.

The firmware shall be upgraded using the *firmware update* tab on the web interface of the Anybus Wireless Bolt/Bridge II which by default is available at <http://192.168.0.99>.

Known limitations:

Title	Description	Issue(s)
Safari does not always present status on FW upgrade in web UI	When Safari is used at FW update, the status information some times is missing. In that case wait 4 minutes before re-start of the module, to make sure that FW update is ready.	
DHCP relay incorrectly encapsulates relayed requests when using layer 2 bridging.	When the DHCP relay functionality is enabled on an AWB/Bolt WLAN client, which is connected to an AWB/Bolt WLAN AP running a DHCP server, the relay will encapsulate the relayed requests causing the server to attempt to reply to the relays ethernet MAC address causing the relay to miss the reply.	849
DHCP relay does not run over Bluetooth	It uses the Ethernet MAC address and the responses from the server are dropped for some reason.	847
Refresh of web ui with cache disable ends up with 404 for index.html	When refreshing the web ui and having cache disable in chrome sometime lwip delivers the 404 file instead of index.html.	577



Updates in version 1.2.3:

This is the second production release of the Anybus Wireless Bridge II.
It is also the second service pack for the Anybus Wireless Bolt.

The following changes have been made in this release:

- Closed issues: 631, 687, 688 (see Known limitations in version 1.1.6)
- Web UI issues: 597, 555, 534, 466, 673, 225, 224, 211, 685, 737, 781, 778, 398, 647, 799, 631, 507, 795
- Stability issues: 596, 571, 559, 557, 496, 635, 692, 762, 479, 260, 165, 797, 754
- WLAN issues: 696, 603, 441, 422, 182, 266, 187
- Bluetooth issues: 439, 520, 520, 487
- Easy Config enhancement: 807, 808, 672, 681, 801, 627, 687
- DHCP relay issues: 843, 846, 833, 802, 810, 688
- DHCP client over WLAN now works properly
- PROFIsafe can be enabled with AT commands and presents information in Web UI if activated.
- Branding support
- Bluetooth support for some Android devices
- Updated radio FW that fulfills RED requirements
- Updated AT manual now in web UI instead of user manual
- Added AT commands: AT*BBM, AT*AILVIE, AT*AMESS, AT*AMECFL, AT*AMSI, AT*AMSBC, AT*AMPSM, AT*AMIC, AT*AMSERIAL, AT*AMDEFAULT

Affected functionality

		Description
Affected functionality	<input type="checkbox"/> Bootloader <input checked="" type="checkbox"/> AT interface <input checked="" type="checkbox"/> GUI interface (Web pages) <input checked="" type="checkbox"/> Default configuration settings <input type="checkbox"/> Network conformity <input checked="" type="checkbox"/> Application interface <input checked="" type="checkbox"/> WLAN interface <input checked="" type="checkbox"/> Bluetooth interface <input checked="" type="checkbox"/> IT-functionality <input checked="" type="checkbox"/> Stability <input type="checkbox"/> Other	This release applies for both AWB II and Bolt

Compatibility:

This release is a Service pack to Anybus Wireless Bolt and AWB II.

Any device with FW version earlier than version 1.1.6 require an update of boot loader before installation of this version. This is done by upgrading to 1.1.6 first.

Hardware

This firmware can run on Anybus Wireless Bolt hardware as well as the AWB II hardware.

PCB	Compatible
1029-1.0.1	Not Compatible
1029-1.1.1	Compatible



PCB	Compatible
1029-1.2.1	Compatible
1030-1.0.1	Compatible
1030-1.1.1	Compatible
1030-1.2.1	Compatible

Software upgrade

Factory reset shall be done before the installation of new version.

SW upgrade shall be done over Ethernet.

The firmware shall be upgraded using the *firmware update* tab on the web interface of the Anybus Wireless Bolt/Bridge II which by default is available at <http://192.168.0.99>.

Known limitations:

Title	Description	Issue(s)
Safari does not always present status on FW upgrade in web UI	When Safari is used at FW update, the status information some times is missing. In that case wait 4 minutes before re-start of the module, to make sure that FW update is ready.	
DHCP relay incorrectly encapsulates relayed requests when using layer 2 bridging.	When the DHCP relay functionality is enabled on an AWB/Bolt WLAN client, which is connected to an AWB/Bolt WLAN AP running a DHCP server, the relay will encapsulate the relayed requests causing the server to attempt to reply to the relays ethernet MAC address causing the relay to miss the reply.	849
DHCP relay does not run over Bluetooth	It uses the Ethernet MAC address and the responses from the server are dropped for some reason.	847
Refresh of web ui with cache disable ends up with 404 for index.html	When refreshing the web ui and having cache disable in chrome sometime lwip delivers the 404 file instead of index.html.	577



Updates in version 1.1.6:

This is the first production release of the Anybus Wireless Bridge II. It is also the first service pack for the Anybus Wireless Bolt. The following changes have been made in this release:

- Closed issues: #473, #485, #490, #482, #496 (see Known limitations in version 1.0.0)
- Decreased BT latency
- Improved usability in web UI
- Added functions in web UI: disable BT or WLAN, WLAN client bridge mode etc
- Added DHCP relay function
- Added AWB II specific functions: mode button, LED indicators, AT manual in help file
- Added functions for optimization of Profinet performance: PTCP filter, packet prioritization
- FW is now signed to prevent manipulation of the device
- "Just Works" is now the factory default Bluetooth security mode
- L2 tunneling is now default at Easy Config mode 5

Known limitations:

Title	Description	Issue(s)
Limitation in prioritization of Profinet traffic	On a Bluetooth network with more than one clients, the Profinet traffic could be disrupted by excessive traffic of other packet sizes particularly if they are large packets.	#640
Missing security key is not detected when running Easy config mode 5 or 6	If security key has been manually removed on AP/NAP when adding more clients by use of Easy config mode 5 or 6 the connection to the clients will be unsecure.	#687
Mismatch in presentation of channel and channel bands in system overview	Displayed channel band does not correspond to the currently set channel.	#631
Instability in DHCP relay function over WLAN	At setup there is sometimes a delay or need for re-start of the device	#688
Main differences compared to AWB (old product)	BT and WLAN integrated in the same product Ad-hoc mode is replaced with AP Updated AT commands SNMP support is not implemented No support for Profinet DCP No web UI function for setting ProfiSafe Only AT commands (no web UI) for some security settings	
Safari does not always present status on FW upgrade in web UI	When Safari is used at FW update, the status information some times is missing. In that case wait 4 minutes before re-start of the module, to make sure that FW update is ready.	



Updates in version 1.0.0:

This is the first production release of the Anybus Wireless Bolt. The following changes have been made in this release:

- Improved usability in web UI
- Added support for Safari
- Added support for BT and WLAN roaming
- Improved stability in the bridge

Known limitations:

Title	Description	Issue(s)
Issues with IP assignment using the internal DHCP server in MAC-Clone bridge mode.	When using the WLAN MAC-Clone bridge mode on a Bolt connected to another AP Bolt with internal DHCP server enabled, the AP will be unaccessable from client Bolt side.	#473
IP Forwarding bridge mode has a limitation of 48 entries in its MAC/ARP cache.	When using the WLAN IP-Forwarding bridge mode on a large network with many devices, there is a risk that the ARP cache will fill up and new devices would not be able to communicated over the wireless link.	#485
Stability issues when pushing the throughput barrier well beyond its limits on a Bluetooth link.	When pushing the throughput barrier well beyond its limits on a multi client Bluetooth link between several Bolts, it might cause stability issues.	#490
Stability issues using WLAN+WPA.	Due to a known issue in the WLAN driver, the devices involved in a WLAN connection using WPA encryption might experience stability issues. The issue is currently being investigated.	#482
In the event of SW crash the device halts until watchdog timeout.	If the devices crashes it may take up to 30 seconds for the device to recover.	#496