



i-STAT[®] TECHNICAL BULLETIN

i-STAT[®] 1 Wireless Analyzer Specifications

OVERVIEW

The following i-STAT 1 Wireless Analyzer specifications supplement the i-STAT 1 Analyzer specifications found in Section 2 of the i-STAT 1 System Manual. The i-STAT 1 Wireless Analyzer shares all operational specifications with the i-STAT 1 Analyzer with the exception of the following:

1. The i-STAT 1 Wireless Analyzer can communicate with a Data Manager using an existing 802.11b/g Wireless LAN.
2. The i-STAT 1 Wireless Analyzer does not have the capability to run glucose test strips.
3. An approximate 30% reduction in the lifetime of battery charge due to the use of wireless downloads is expected. See Section 2 of the i-STAT 1 System Manual for additional battery charge lifetime information.

The following table shows a comparison of the communication capabilities of the i-STAT 1 Analyzer and the i-STAT 1 Wireless Analyzer.

Communication Capabilities Comparison Table for i-STAT 1 Analyzer Variants

Communication Process	i-STAT 1 Analyzer	i-STAT 1 Wireless Analyzer	
Downloading Results to the Data Manager via a Downloader or a Downloader/Recharger	YES	YES	All i-STAT 1 communication peripherals are compatible
Downloading Results to the Data Manager via 802.11b/g Wi-Fi	NO	YES	The analyzer utilizes existing facility 802.11b/g Wi-Fi access points
Downloading customization settings, operator lists, STATNotes information, etc., via 802.11b/g Wi-Fi	NO	YES	Customization settings will be downloaded via 802.11b/g Wi-Fi access points
Updating Handheld Software via a Downloader or Downloader/Recharger	YES	YES	
Updating Handheld Software via 802.11b/g Wi-Fi	NO	NO	Users are required to have a Downloader or a Downloader/Recharger for bi-annual software updates



For instructions on configuring an i-STAT 1 Wireless Analyzer, see the Technical Bulletin “Configuring Wireless Settings in an i-STAT® 1 Wireless Analyzer” (Art: 726066-00).

For procedures on using the i-STAT 1 Wireless Analyzer, see the Technical Bulletin “Procedure for Using the i-STAT® 1 Wireless Analyzer” (Art: 726025-00).

For information on which Wireless Module your analyzer contains, see Appendix 1 of either the Technical Bulletin “Configuring Wireless Settings in an i-STAT® 1 Wireless Analyzer” (Art: 726066-00) or the “i-STAT® 1 Wireless User Guide” (Art: 726064-00).

If you have any questions regarding the information in this Technical Bulletin, please contact Abbott Point of Care Technical Support at 800-366-8020, option 1, or by e-mail at techsvc@apoc.abbott.com.

BEFORE YOU USE THE i-STAT 1 WIRELESS ANALYZER

To utilize the wireless functionality of the i-STAT 1 Wireless Analyzer, an existing 802.11b/g Wireless Network must exist at your facility.

Note 1: Users must follow site-specific guidelines for operating wireless devices.

The Wireless Specifications presented below should be used to determine if the i-STAT 1 Wireless Analyzer is compatible with your existing 802.11b/g Wireless LAN infrastructure.

Note 2: Users must ensure that there is sufficient Wi-Fi coverage in the area(s) where results will be transmitted.

WIRELESS SPECIFICATIONS

For Analyzers containing Wireless Module FCC ID: PI405W (Firmware: 6.5.X.X/X.X, where X is ≥ one digit)

WIRELESS STANDARDS SUPPORTED	IEEE 802.11b, IEEE 802.11g
RADIO FREQUENCY UTILIZED	2.412-2.484 GHz
MAX RF TRANSMIT POWER	802.11b: +17 dBm 802.11g: +15 dBm
RF RECEIVE SENSITIVITY	-65 dBm
RF ANTENNA	Internal high performance +2dB multi-layer ceramic
DATA TRANSFER RATES	54 Mbps – 1 Mbps with automatic fallback
CONNECTION MODES	Wireless LAN infrastructure and ad hoc (used for configuration of wireless LAN security settings)
WIRELESS SECURITY SUPPORTED	WEP 64 & 128 Bit WPA1/WPA2 (TKIP/AES) Pre-Shared Key & Enterprise EAP-TLS EAP-TTLS/MSCHAPv2 PEAPv0/EAP-MSCHAPv2
SUPPORTED NETWORK CERTIFICATE HASH ALGORITHM	SHA-1
FCC IDENTIFIER	Modular Approval FCC ID# PI405W
BATTERY LIFE	An approximate 30% reduction in the life of the battery (in terms of cartridge usage) due to the use of the wireless downloads is expected. Note: this 30% reduction is an approximation based upon a use model of transmitting results wirelessly following each cartridge run. See Section 2 of the i-STAT System Manual (i-STAT 1 Analyzer) for additional battery lifetime information.

RADIO COMPLIANCE	MODULAR APPROVAL Contains FCC ID: PI405W
SAFETY COMPLIANCE	Standard for the Safety of Electrical Equipment for Measurement, Control, and Laboratory Use – IEC 61010-1: 2nd. Ed.
RF EXPOSURE COMPLIANCE	FCC OET-65C (Ed 01-01)
LASER COMPLIANCE	Complies with the U.S. 21 CFR 1040.10 and 1040.11 except for deviations pursuant to laser Notice No. 50, dated June 24, 2007. EN 60825-1:1994 + A1:2002 + A2:2001 IEC 60825-1:1993 + A1:1997 + A2:2001
EMC COMPLIANCE	FCC Part 15 Subpart B Class A

FCC Compliance Statement:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

For Analyzers containing Wireless Module FCC ID: YOPGS1500M (Firmware: GEXPSX.X.X/MCUX.X)

WIRELESS STANDARDS SUPPORTED	IEEE 802.11b, IEEE 802.11g
RADIO FREQUENCY UTILIZED	2.412-2.484 GHz
MAX RF TRANSMIT POWER	802.11b, 11Mbps: +14 dBm 802.11g, 54 Mbps: +12 dBm
RF RECEIVE SENSITIVITY	802.11b, 11Mbps: -88dBm 802.11g, 54Mbps: -75dBm
RF ANTENNA	PCB Trace Antenna
DATA TRANSFER RATES	802.11b (CCK): 1, 2, 5.5, 11 Mbps 802.11g (OFDM): 6, 9, 12, 18, 24, 36, 48, 54 Mbps
CONNECTION MODES	Wireless LAN infrastructure and ad hoc (used for configuration of wireless LAN security settings)
WIRELESS SECURITY SUPPORTED	WEP 64 & 128 BIT WPA1/WPA2 (TKIP/AES) Pre-Shared Key & Enterprise EAP-TLS EAP-TTLS/MSCHAPv2 PEAPv0/EAP-MSCHAPv2
SUPPORTED NETWORK CERTIFICATE HASH ALGORITHM	SHA-1 SHA-256
FCC IDENTIFIER	Modular Approval FCC ID# YOPGS1500M
BATTERY LIFE	An approximate 30% reduction in the life of the battery (in terms of cartridge usage) due to the use of the wireless downloads is expected. Note: this 30% reduction is an approximation based upon a use model of transmitting results wirelessly following each cartridge run. See Section 2 of the i-STAT System Manual (i-STAT 1 Analyzer) for additional battery lifetime information.

RADIO COMPLIANCE	MODULAR APPROVAL Contains FCC ID: YOPGS1500M
SAFETY COMPLIANCE	Standard for the Safety of Electrical Equipment for Measurement, Control, and Laboratory Use – IEC 61010-1: 3rd. Ed.
RF EXPOSURE COMPLIANCE	FCC OET-65C (Ed 01-01)
LASER COMPLIANCE	Complies with U.S. 21 CFR 1040.10 and 1040.11 except for deviations pursuant to laser Notice No. 50, dated June 24, 2007. EN 60825-1:1994 + A1:2002 + A2:2001 IEC 60825-1:1993 + A1:1997 + A2:2001
EMC COMPLIANCE	FCC Part 15 Subpart B Class A

FCC Compliance Statement:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

IMPORTANT NOTE: To comply with FCC & IC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

License Applicable to Bcrypt Library
Copyright (c) 2002 Johnny Shelley. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the disclaimer below.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the disclaimer below in the documentation and/or other materials provided with the distribution.
3. Neither the name of the author nor any contributors may be used to endorse or promote products derived from this software without specific prior written permission.

DISCLAIMER

THIS SOFTWARE IS PROVIDED BY COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

i-STAT is a registered trademark of the Abbott Group of Companies in various jurisdictions.