HandyPort

HandyPort Software Version 3.2.4

Software Release Note

2008. 07. 31
SW-2000-2N1E
Version 1.0

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1. Introduction

This document describes HandyPort software version 3.2.4, the most recent release of HandyPort software.

1.1. HandyPort Software Version 3.2.4

There was a B-20 bug that it'd not made the stable connections from the third vendor's BT stacks including Windows OS when HandyPort was in WAIT mode. It's been fixed in HandyPort software version 3.2.4.

1.2. HandyPort Software Version 3.2.3

A MN and SN can use a serial port to connect to device in HandyPort software version 3.2.3. It's a user's choice to upgrade to HandyPort Software Version 3.2.3.

1.3. HandyPort Software Version 3.2

HandyPort software version 3.2 supports the Point-to-Point connection, Point-to-Multipoint connections including a repeater function, Star network and Tree network. And it supports the software upgrade by user via a serial port with DFU and DFU Wizard from CSR.

1.4. Document History

Table 1-1 Document History

Revision	Date	Reason for Change
1.0	2008. 07. 31	Original publication of this document (HandyWave reference: SW-2000-2N1E)

1.5. Terms and Definitions

Table 1-2 Terms and Definitions

Term	Definition
BC	BlueCore, Group term for CSR's range of Bluetooth wireless technology chips
BT	Bluetooth
CSR	Cambridge Silicon Radio
DFU	Device Firmware Upgrade
DSR	Data Set Ready
DTR	Data Terminal Ready
EN	End Node in HandyPort multipoint network
HCS	HandyCore Serial
HPS	HandyPort Serial
MN	Master Node in HandyPort multipoint network
MSPP	Multi-Serial Port Profile
PIN	Personal Identity Number
RTS	Request To Send
SN	Sub Node in HandyPort multipoint network
SPI	Serial Peripheral Interface
UART	Universal Asynchronous Receiver Transmitter

1.6. Reference Documents

1. HPS-110 User's Manual, Version 2.0
2. HPS-120 User's Manual, Version 2.0
3. HPS-200, User's Manual, SYM-2200-2E, Version 1.0, 2007. 04. 07
4. HCS-03 Design Guidelines, Application Note, AN-2010-20E, Version 1.0, 2008. 07. 14
5. HandyPort Software Upgrade, Application Note, AN-2010-11E, Version 1.1, 2007. 11. 14
6. HandyPort/HandyCore Extended Command Set, User's Manual, Version 1.0
7. DFU Wizard Setup, Application Note, AN-2010-10E, 2006. 05. 31

2. Hardware and New Functions

This chapter describes the applicable hardware and the new functions.

2.1. Applicable Hardware

HandyPort software version 3.2.4 can be applied for HPS-110, HPS-120, HPS-200 and HCS-03.

2.2. New Functions

2.2.1. HandyPort Software Version 3.2.4

There was a B-20 bug that it'd not made the stable connections from the third vendor's BT stacks including Windows OS when HandyPort was in WAIT mode. It's been fixed in HandyPort software version 3.2.4.

2.2.2. HandyPort Software Version 3.2.3

A MN and SN can use a serial port to connect to device in HandyPort software version 3.2.3. It was just used for monitoring purpose in version 3.2. It can increase the number of accommodation nodes and remove overhead in HandyPort point-to-multipoint network.

2.3. Software

To fix a B-20 bug, HandyPort is required to upgrade to HandyPort software version 3.2.4. It will release via HandyWave's webpage. It will include a file, app_v324_073108.dfu (or app_v324_073108.zip). To upgrade to the software version 3.2.4, a HandyPort shall have the software version 3.2 or later.

2.3.1. New Features in HandyPort Software Version 3.2.4

- Fixed a B-20 bug

2.3.2. New Features in HandyPort Software Version 3.2.3

- UART Mode for MN and SN
- Full Adaptive Frequency Hopping (AFH) support
- Faster connection compare to BT Spec V1.1

2.4. Functional Restrictions

The Over-the-Air bandwidth of HandyPort software version 3.2.4 is limited to approximately 380Kbps.

2.5. Testing

The testing for HandyPort software version 3.2.4 has included:

- UART-based transports set at various bard rates (1.2 ~ 115.2Kbps)
- Point-to-Point data transfers
- Point-to-Multipoint data transfers
- Bulk and multiple data transfers using Point-to-Point connection and Point-to-Multipoint connections
- Inquiry
- Connection scenarios: 1:1, WAIT, Register & Connect, and WAIT COMMAND
- Authentication and Encryption
- Pairing
- Managing stored link keys
- Manual testing of issues declared as addressed in this document
- Manual testing to confirm that power consumption is as expected
- Interoperability of HandyPort software and hardware
- Interoperability with other stacks including Microsoft, BlueSoleil, and Widcomm
- Interference with 802.11x devices
- RF performance
- Regression testing has included:
  - Initialization
  - Button operation
  - LED operation
  - SPI operation
  - UART operation
  - Extended Command Mode operation
  - UI Command operation
  - Connection scenarios
  - Call processing
  - Transmission delay
  - Safety and reliability testing

2.6. Software Release Notes

This section describes the software release notes per version.

Table 2-1 List of Software Release Notes

Version	Date	Notes	Remarks
3.2.4	2008. 07. 31	Fixed a B-20 bug (can't make the stable connections from the third vendor's BT stacks, when HandyPort is in WAIT mode.).	Hardware: BC04 BT Spec V2.0
3.2.3	2008. 01. 22	Added a UART mode for MN and SN to use the UART in MN and SN Fixed a problem in EN-SN-Repeater-EN network	Hardware: BC04 BT Spec V2.0 Upgrade is an option.
3.2	2007. 04. 30	Added the multipoint mode Supported the software upgrading via UART	Hardware: BC04 BT Spec V2.0
3.1	2006. 05. 31	Fixed a RTS problem Supported a DSR signal Supported RS-422 and RS-485 (HPS-200 only)	Hardware: BC04 BT Spec V1.2
2.3	2005. 05. 31	Fixed an authentication problem	Hardware: BC02 BT Spec V1.1
2.2	2004. 08. 31	Added the Local Commands for changing the operation parameters	Hardware: BC02 BT Spec V1.1
2.1	2004. 04. 03	Added 'E', 'F', 'K', and OTA commands Supported 1.2, 2.4, and 4.8Kbps Supported DTR/DSR/DTR signals Supported the factory COM port settings Added the Extended Command Set	Hardware: BC02 BT Spec V1.1
1.5	2003. 02. 15	Added UI commands such as 'A', 'B', 'C', 'M', 'N', 'P', 'S', 'V', 'X', and '?' via UART	Hardware: BC01 BT Spec V1.1
1.2	2002. 10. 31	Added UI for Connection Mode, Baud Rate, and Target BD_ADDR via SPI	Hardware: BC01 BT Spec V1.1
1.0	2002. 06. 30	Initial Public Release	Hardware: BC01 BT Spec V1.1

2.7. Known Issues

This section lists currently known issues for HandyPort software and hardware.

Table 2-2 List of Known Issues

ID	Status	Description	Remarks
B-20	Closed Major	Can't make the stable connections from the third vendor's BT stacks including Windows OS, when HandyPort is in WAIT mode. It's been fixed from HandyPort software version 3.2.4.	To solve this problem, an upgrade is required to HandyPort software version 3.2.4.
B-19	Notice	The SN shall have more than an EN in Tree Network.	If a SN doesn't have any EN, it shall be changed to EN.
B-18	Open Critical	Delay in Cascade SN Repeater Network There may be about 60ms delay between nodes due to the data processing at each node.	Ex) EN1-SN-SN-EN2: Data from EN1 can be delayed around 180ms at EN2.
B-17	Open Critical	Can't Tx/Rx data using tree network Everything's fine at first. All of sudden, it can't Tx and Rx data anymore between the master and slaves, even if the link LED is lit.	Workaround: Adjust the number of nodes (1 to 4) in tree network when it is required bulk data Tx and Rx.
B-16	Closed Minor	Can't use UART for a device at MN and SN The HandyPort has been supporting it including SN repeater from the software version 3.2.3.	
B-15	Open Critical	HPS-200 shutdown at 24V It's required the power off and on at that time. The regulator in HPS-200 is shutdown the power by excessive die temperature (50°C).	Workaround: Using the low power mode or using 12V instead of 24V.
B-14	Open Major	MSPP can't run in Vista The MSPP can't install in Microsoft Vista.	Workaround: Using the Bluetooth Software provided by Microsoft.

ID	Status	Description	Remarks
B-13	Open Critical	MODBUS RTU transmission mode In RTU mode, message frames are separated by a silent interval of at least 3.5 character times. But the HandyPort can't meet that specification. The HandyPort may have some 20 ~ 200ms silent intervals within a RTU message frame.	Workaround: Using ASCII transmission mode
B-12	Closed Minor	Change RS-232 level to TTL level for HPS-110 Move R5 (0ohm) and R6 (0ohm) to R3 and R4. It's been supporting from the HPS-110 hardware version 2.1.	
B-11	Closed Minor	Can't be connected to MS BT software The Microsoft has been supporting Bluetooth from the Windows XP Service Pack 2. But it is required a PIN.	Workaround: Make the connection mode to WAIT for HandyPort and enter a PIN code for it.
B-10	Closed Major	Software Upgrade by Users The HandyPort has been supporting the software upgrade by users from the software version 3.2.	
B-9	Open Critical	Bypassing a break signal Some systems have been using a break signal for special purpose. But the HandyPort can't bypass it.	Workaround: Using a signal pattern rather than the break signal.
B-8	Closed Major	Point-to-Multipoint connections The HandyPort has been supporting the Point-to-Multipoint functions from the software version 3.2.	
B-7	Closed Minor	Repeater Functions The HandyPort has been supporting the repeater functions from the software version 3.2.	
B-6	Open Critical	No Power All of sudden, the HandyPort doesn't work anymore. The HandyPort might be damaged by unstable power.	Workaround: The HandyPort need to be reprogrammed totally by HandyWave.

ID	Status	Description	Remarks
B-5	Open Minor	Can't Tx and Rx data Everything's fine without the flow control at first. All of sudden, it can't Tx and Rx data anymore, even if the link LED is lit. It can be happened by credit starvation when it's used without the flow control.	Workaround: Using the flow control to avoid buffer overflow
B-4	Closed Critical	WLAN co-existence problem The HandyPort uses the adaptive frequency hopping to solve it from the software version 3.1.	
B-3	Open Major	7-data bits support Many devices have been using 7-data bits with a parity bit. But the HandyPort can't support 7-data bits.	Workaround: Using 8-data bits including a parity bit instead of 7-data bits at the HandyPort.
B-2	Closed minor	RS-422/RS-485 support The HPS-200 supports RS-232, RS-422, and RS-485 connections at a time.	
B-1	Closed Major	HPS-110 entered the setup mode automatically The HPS-110 might enter the setup mode automatically in the hardware version 1.x. There was a reset IC in the hardware version 1.x. It can be made a malfunction by unstable power. It was removed from the hardware version 2.0.	Workaround: The HPS-110 can be set in the extended command mode to avoid it.

2.8. Contact Information

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