TOSHIBA

Toshiba SAPPHIRE-67CFSG User Manual

Bluetooth ic evaluation board

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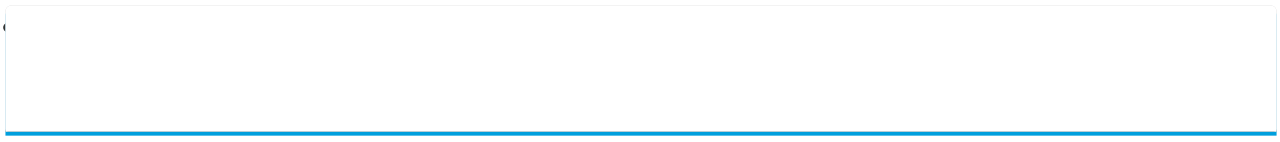

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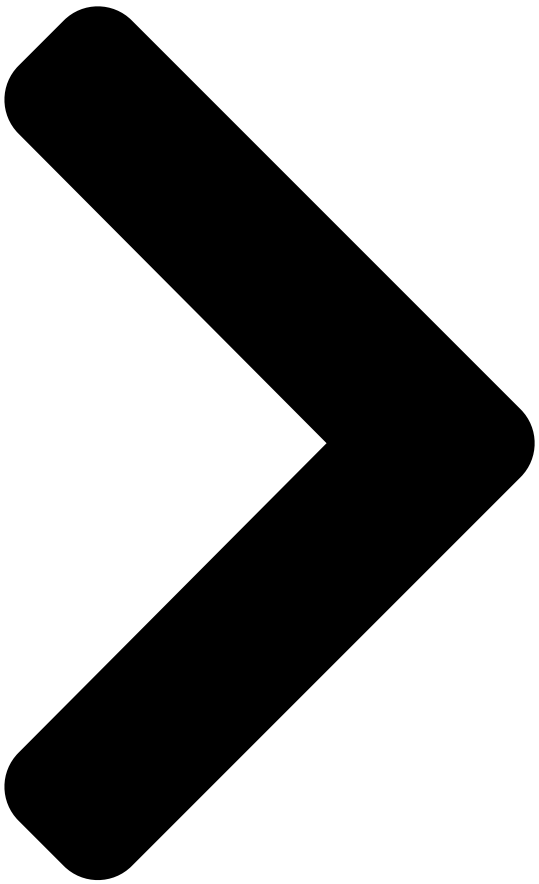

SAPPHIRE-67CFSG
SAPPHIRE-67DFSG

TOSHIBA Bluetooth® IC Evaluation Board User's Manual

SENSYST

Rev 1.0

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Related Manuals for Toshiba SAPPHIRE-67CFSG

Motherboard Toshiba TMPM330 User Manual

(31 pages)

Motherboard Toshiba MCU FLASH WRITER Instruction Manual

(5 pages)

Motherboard Toshiba TCKE8 Series Instruction Manual

(10 pages)

Motherboard Toshiba TB6605FTG Reference Manual

Mcd evaluation board for pump motor control (18 pages)

Summary of Contents for Toshiba SAPPHIRE-67CFSG

Page 1 SAPPHIRE-67CFSG SAPPHIRE-67DFSG TOSHIBA Bluetooth® IC Evaluation Board User's Manual SENSYST Rev 1.0...

Page 2: Regulatory Compliance Information

Regulatory Compliance Information This evaluation board contains the device that transmit and receive radio signals for the 2.4-GHz unlicensed frequency range and is gained regulatory approvals to be used in Japan and United States. FEDERAL COMMUNICATIONS COMMISSION Part 15 Compliant Caution This device complies with part 15 of the FCC Rules.

Page 3 SAPPHIRE Evaluation Board KIT <Contents > USB Type A Male to Mini B Male Cable, The coaxial RF adapters suitable for Hirose MS-156C, Evaluation board ...1 Jumper socket ...19 and the debugger with half pitch 10 pin cable aren't included. If need for your evaluation, please prepare yourself.

Page 4 1. Introduction The SAPPHIRE evaluation board includes Toshiba Bluetooth LE IC complies with Bluetooth v4.2, low energy single-mode radio. Toshiba Bluetooth LE IC is Compliant with Bluetooth v4.2 low energy system Operating frequency: 2.4 GHz ISM band at 2400-2483.5 MHz (40 RF channels; f=2402+k*2 MHz, k=0, ... ,39) Maximum output power level: 0dBm (typ.)

Page 5 2. Overview The differences between each model are shown following table. ORIGINAL Model Board BTLE BTLE Chipset FCC ID Chipset Name CMSIS- Package Internal Internal Internal Internal Internal Flash Mask Work Silicon Randam Memory ROM(KB) RAM(KB) Number (KB) Generator Model-1 SAPPHIRE- TC35678FSG 2AKW4-...

Page 6 3. Overview Appearance The difference in appearance between SAPPHIRE-67CFSG & SAPPHIRE-67DFSG and SAPPHIRE-678FSG & SAPPHIRE-679FSG is that we added parts for CMSIS-DAP. Grove Connector for I2C devices (not mounted) (6) Half pitch 10 pin GND Pin Connector for SWD (not mounted)

Page 7: Block Diagram

4. Block Diagram 4-1. SAPPHIRE-67CFSG (2AKW4-678FSG)

Page 8 4-2. SAPPHIRE-67DFSG (2AKW4-678FSG)

Page 9 5. Features The SAPPHIRE evaluation board includes Toshiba Bluetooth LE IC complies with Bluetooth v4.2, low energy single-mode radio and has the following features. [Radio] Complies with Bluetooth v4.2, low energy single-mode radio operates at 2402 MHz to 2480 MHz.

Page 10: Transmission Operation

(1) Get the latest version of the CP210x USB to UART Bridge VCP Driver on the Silicon Labs website:www.silabs.com/interface-software and (4) Send commands using Host application such as Toshiba HCI Testers to install this to the PC. operate the Bluetooth LE IC on this board or download a program to the (2) Connect the SAPPHIRE Evaluation board to the PC using standard NVM for user applications.

Page 11: Feature Description

7. Feature Description (2) Mode Select (CN1-2) (3) I/O Pin Header (CN5-8) (1) Power Select Pin(CN4) Depending on the mounting of the jumper socket, you can switch To this pin header Use this pin header when selecting the power supply for the between HCI mode and User-App mode.

Page 12 (4) Pin Header for User-App (CN16) (5) Mini-USB Connector (CN17) (7) Mini-USB Connector (CN12) This pin header is for user application evaluation. Power Select (Please show Power select pin) It is for CMSIS-DAP. You can debug the Bluetooth LE IC without The connection destination of each pin is shown in the table below.

Page 13 8. BLE Chip Specification Please refer to TC3567CFSG-001_SummaryCatalog_en_20170626.pdf TC3567DFSG-001_SummaryCatalog_en_20170626.pdf https://toshiba.semicon-storage.com/us/product/wireless-communication/bluetooth/detail.TC3567CFSG-001.html https://toshiba.semicon-storage.com/us/product/wireless-communication/bluetooth/detail.TC3567DFSG-001.html...

Page 14 9. Appendix The following picture shows the setting when using CMSIS-DAP function. It is necessary to receive the PC driver for CMSIS-DAP from Toshiba Electronic Devices & Storage Corp. For details, refer to the following URL. https://toshiba.semicon-storage.com/us/product/wireless-communication/bluetooth.html For details of CMSIS-DAP, please refer to the following URL.

This manual is also suitable for:

Sapphire-67dfsg