



Connect Tech Inc.
Embedded Computing Experts

Qseven to COM Express Adapter User Manual



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Revision History

Revision	Date	Author(s)	Change(s)
0.00	02/15/2012	PD	Initial Manual Revision Created

Customer Support Overview

If you experience difficulties after reading the manual and/or using the product, contact the Connect Tech Inc. reseller from which you purchased the product. In most cases the reseller can help you with product installation and difficulties.

In the event that the reseller is unable to resolve your problem, our highly qualified support staff can assist you. Our support section is available 24 hours a day, 7 days a week on our website at: www.connecttech.com/sub/support/support.asp. See the contact information section below for more information on how to contact us directly. Our technical support is always free.

Contact Information

We offer three ways for you to contact us:

Mail/Courier

You may contact us by letter at: Connect Tech Inc.
Technical Support
42 Arrow Road, Guelph, ON
Canada N1K 1S6

Email/Internet

You may contact us through the Internet. Our email and URL addresses on the Internet are:

sales@connecttech.com
support@connecttech.com
www.connecttech.com

Note:

Please go to the [Download Zone](#) or the [Knowledge Database](#) in the [Support Center](#) on the Connect Tech Inc. website for product manuals, installation guides, device driver software and technical tips. Submit your technical support questions to our customer support engineers via the [Support Center](#) on the Connect Tech Inc. website.

Telephone/Facsimile

Technical Support representatives are ready to answer your call Monday through Friday, from 8:30 a.m. to 5:00 p.m. Eastern Standard Time. Our numbers for calls are:

Telephone: 800-426-8979 (North America only)
Telephone: 519-836-1291 (Live assistance available 8:30 a.m. to 5:00 p.m. EST, Monday to Friday)
Facsimile: 519-836-4878 (online 24 hours)

Introduction

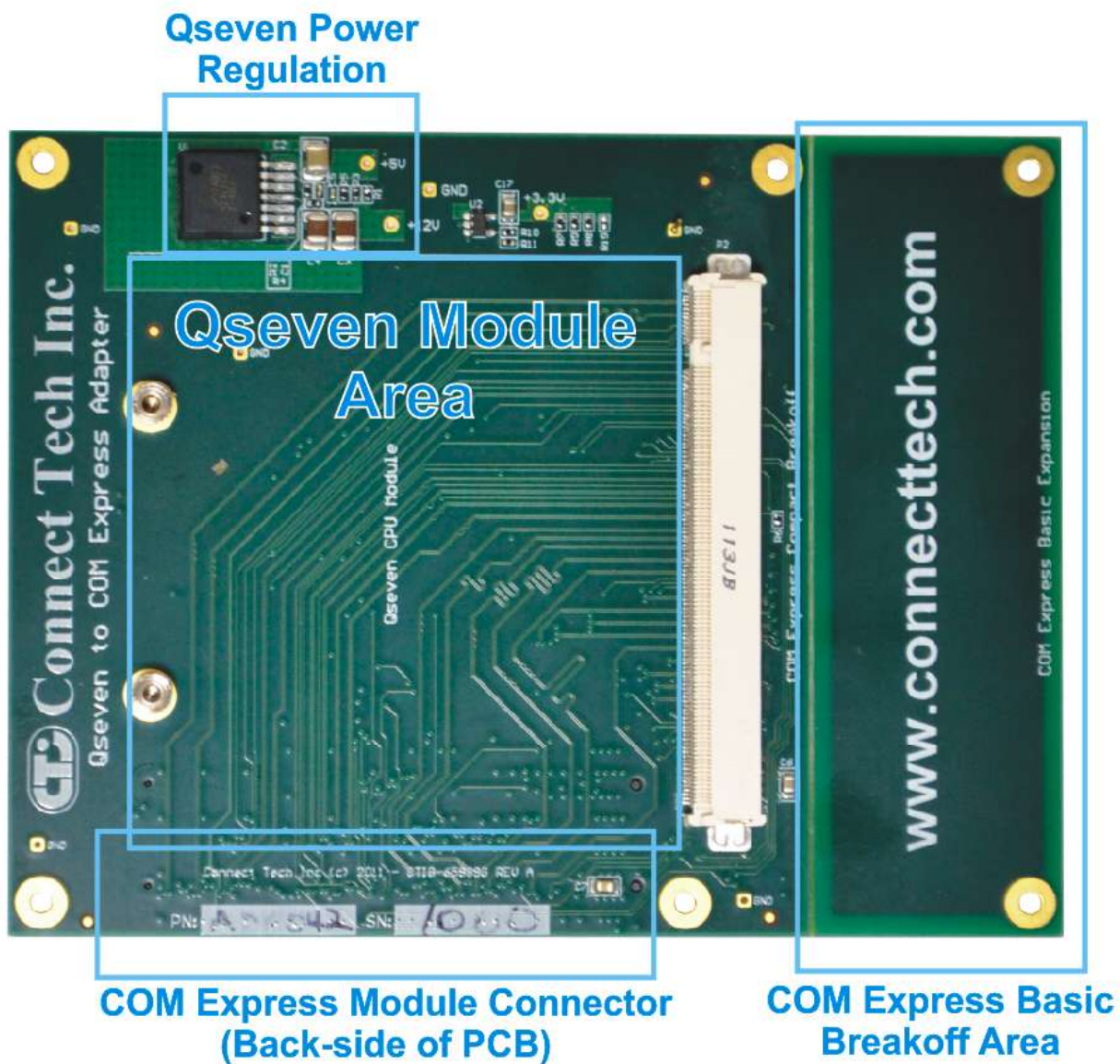
Connect Tech's Qseven to COM Express® Adapter allows users to install a Qseven module into any COM Express® Carrier Board. The Qseven to COM Express® Adapter is transparent to the system, and allows the Qseven module to be added to the COM Express® system without additional setup or software. Users can easily evaluate and integrate the latest generation of low powered Qseven CPU modules in a custom COM Express® carrier.

The Qseven to COM Express® Adapter can be used for evaluation or field deployment, and allows users systems to transition to Qseven without any respin of their COM Express® Carrier.

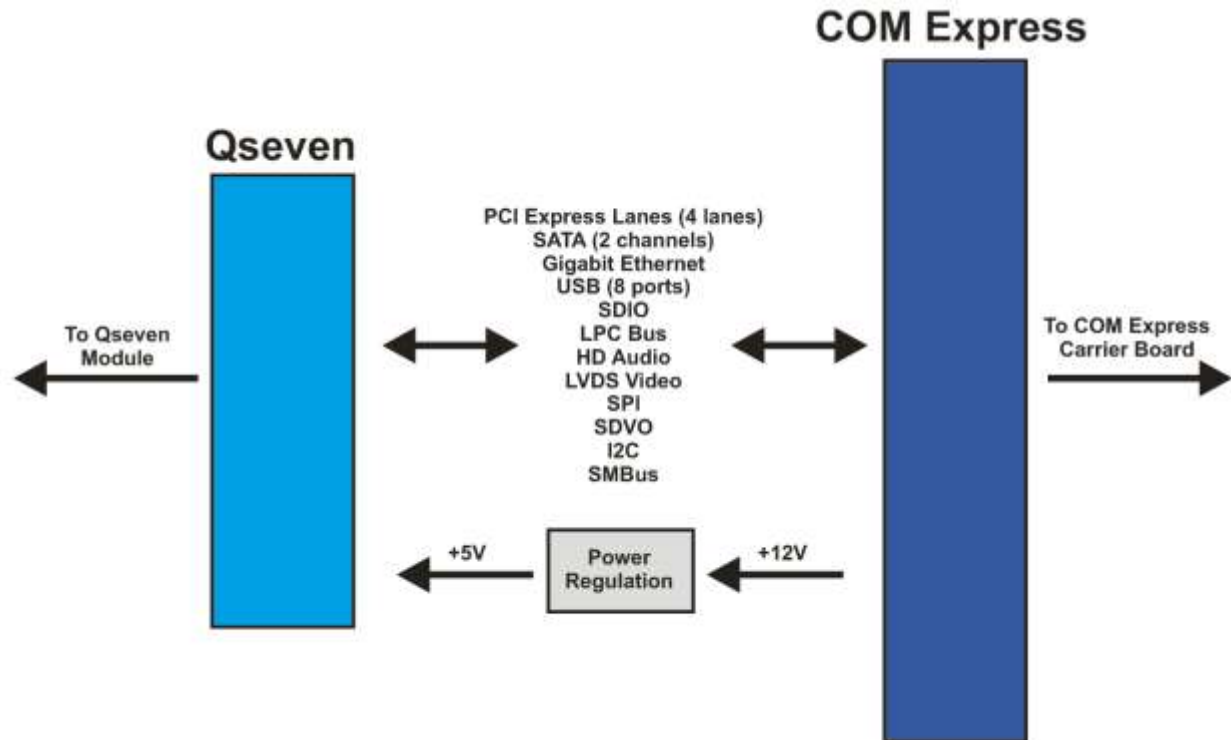
Product Features

Specification	Details
Interfaces	<ul style="list-style-type: none">• PCI Express Lanes (4 lanes)• SATA (2 channels)• GBE• USB (8 ports)• SDIO• LPC Bus• HD Audio• LVDS Video• SPI• SDVO• I2C• SMBus
COM Express Types Supported	Compatible with all COM Express® Types (Only Qseven Signals Connected): Type 2, Type 6, Type 1, Type 10, Type 3, Type 4, Type 5
Connectors	COM Express: <ul style="list-style-type: none">• Single (220 pin) or Double Row (440 pin)• COM Express Module Connectors Qseven: <ul style="list-style-type: none">• 230 pin MXM connector
Physical Dimensions	Basic and Compact COM Express® form factors <ul style="list-style-type: none">• Compact: 95 x 95 mm (via breakoff PCB section)• Basic: 95 x 125 mm
Operation	<ol style="list-style-type: none">1) Install CTI Adapter on COM Express Carrier2) Install Qseven module into Adapter3) Power ON Carrier Board
Power	+12V (All Qseven voltages created from main COM Express +12V)
Temperature	Industrial Operating Temperature Range: -40°C to 85°C (-40°F to 185°F)
Warranty and Support	Lifetime warranty and free technical support

Board Diagram



Block Diagram



Hardware Installation Information

Please follow these steps with installing the Qseven to COM Express Adapter into your system.

- 1) Ensure your COM Express Carrier is powered OFF
- 2) Install the *Qseven to COM Express Adapter*
- 3) Install your Qseven module in the *Qseven to COM Express Adapter*
- 4) Power ON your COM Express Carrier

Qseven to COM Express Pin Interconnect

The interconnect shown below is a listing of the signal interconnection between Qseven and COM Express. All of the available Qseven signals are routed directly to the COM Express, it is important to note that Qseven has less interconnect than COM Express so a number of features in COM Express will not be available, only those that are available in the Qseven standard are available.

COM Express Pin	Qseven Pin	Signal Name
A84	125	LVDS_I2C_DAT
A83	127	LVDS_I2C_CK
B83	123	LVDS_BKLT_CT
B79	112	LVDS_BKLT_EN
A77	111	LVDS_VDD_EN
B82	122	LVDS_B_CK-
B81	120	LVDS_B_CK+
B78	116	LVDS_B3-
B77	114	LVDS_B3+
B76	110	LVDS_B2-
B75	108	LVDS_B2+
B74	106	LVDS_B1-
B73	104	LVDS_B1+
B72	102	LVDS_B0-
B71	100	LVDS_B0+
A82	121	LVDS_A_CK-
A81	119	LVDS_A_CK+
A79	115	LVDS_A3-
A78	113	LVDS_A3+
A76	109	LVDS_A2-
A75	107	LVDS_A2+
A74	105	LVDS_A1-
A73	103	LVDS_A1+
A72	101	LVDS_A0-
A71	99	LVDS_A0+
B27	72	WDT
B33	66	I2C_CK
B34	68	I2C_DAT
B13	60	SMB_CK
B14	62	SMB_DAT
B15	64	SMB_ALERT#
B32	194	SPKR
A34	41	BIOS_DISABLE
B35	69	THRM#
A35	71	THRMTRIP#
C67	196	FAN_PWMOUT
C77	195	FAN_TACHOIN
B97	200	SPI_CS#
A95	199	SPI_MOSI
A94	203	SPI_CLK
A92	201	SPI_MISO
B30	65	AC_SDIN0
A33	67	AC_SDOOUT
A32	63	AC_BITCLK
A29	59	AC_SYNC
A30	61	AC_RST#
A54	49	GPIO
A63	48	GPI1
A67	51	GPI2
A85	50	GPI3
A93	42	GPO0
B54	45	GPO1
B57	46	GPO2
B63	43	GPO3
A27	27	BATLOW#
B67	17	WAKE1#
A24	16	SUS_S5#
A15	18	SUS_S3#
B18	19	SUS_STAT#
B24	26	PWR_OK
B49	28	SYS_RESET#
B12	20	PWRBTN#
B10	189	LPC_CLK
B8	192	LPC_DRQ0#
B7	188	LPC_AD3
B6	187	LPC_AD2
B5	186	LPC_AD1
B4	185	LPC_AD0
B3	190	LPC_FRAME#
A50	191	LPC_SERIRQ

Pin / Interconnect Continued

COM Express Pin	Qseven Pin	Signal Name
C73	150	SDVO_I2C_DAT
D73	152	SDVO_I2C_CLK
D62	133	PEG_TX3-
D61	131	PEG_TX3+
C59	140	PEG_RX2-
C58	138	PEG_RX2+
D59	145	PEG_TX2-
D58	143	PEG_TX2+
C56	134	PEG_RX1-
C55	132	PEG_RX1+
D56	139	PEG_TX1-
D55	137	PEG_TX1+
C53	146	PEG_RX0-
C52	144	PEG_RX0+
D53	151	PEG_TX0-
D52	149	PEG_TX0+
A38	79	USB_6_7_OC#
B38	80	USB_4_5_OC#
A44	85	USB_2_3_OC#
B44	86	USB_0_1_OC#
B36	75	USB7-
B37	77	USB7+
A36	76	USB6-
A37	78	USB6+
B39	81	USB5-
B40	83	USB5+
A39	82	USB4-
A40	84	USB4+
B42	87	USB3-
B43	89	USB3+
A42	88	USB2-
A43	90	USB2+
B45	93	USB1-
B46	95	USB1+
A45	94	USB0-
A46	96	USB0+
A28	33	SATA_ACT#
B17	32	SATA1_TX-
B16	30	SATA1_TX+
B20	38	SATA1_RX-
B19	36	SATA1_RX+
A17	31	SATA0_TX-
A16	29	SATA0_TX+
A20	37	SATA0_RX-
A19	35	SATA0_RX+
B2	14	GBE0_ACT#
A5	8	GBE0_LINK100
A4	7	GBE0_LINK100
A8	13	GBE0_LINK#
A14	15	GBE0_CTREF
A2	3	GBE0_MDI3-
A3	5	GBE0_MDI3+
A6	4	GBE0_MDI2-
A7	6	GBE0_MDI2+
A9	9	GBE0_MDI1-
A10	11	GBE0_MDI1+
A12	10	GBE0_MDIO-
A13	12	GBE0_MDIO+
B66	156	WAKE0#
B50	158	CB_RESET#
B47	172	EXCD1_PERST#
A48	171	EXCD0_PERST#
B48	178	EXCD1_CPPE#
A49	177	EXCD0_CPPE#
A88	155	PCIE_CK_REF+
A89	157	PCIE_CK_REF-
B58	162	PCIE_RX3+
B59	164	PCIE_RX3-
A58	161	PCIE_TX3+
A59	163	PCIE_TX3-
B61	168	PCIE_RX2+
B62	170	PCIE_RX2-
A61	167	PCIE_TX2+
A62	169	PCIE_TX2-
B64	174	PCIE_RX1+
B65	176	PCIE_RX1-
A64	173	PCIE_TX1+
A65	175	PCIE_TX1-
B68	180	PCIE_RX0+
B69	182	PCIE_RX0-
A68	179	PCIE_TX0+
A69	181	PCIE_TX0-