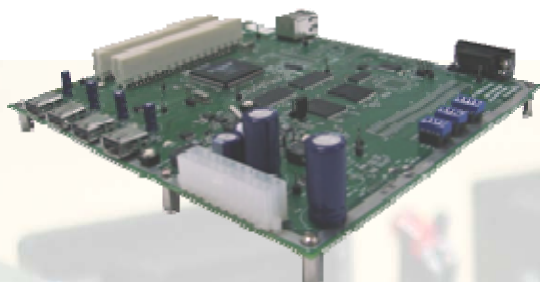


MCS8140 USB Server

Access USB Devices over Network!



MCS8140 Combo EVB

The MCS8140 Network USB Server allows network users to connect remote High speed USB devices like Printers, scanners, digital cameras and USB Flash drives over the network. It is ideal for home office, small office or classroom use!

The USB Server supports both Ethernet and Wi-Fi networks -- making it easy to use USB devices from a Wi-Fi based laptop!

The MCS8140 USB Server Kit comes with user friendly client software which maps USB devices connected to the USB server onto the local host machine.



MCS8140 Wireless Combo EVB

Connectivity to USB Devices

- Four High-Speed USB ports
- Compatible with bulk, interrupt and isochronous type of USB devices

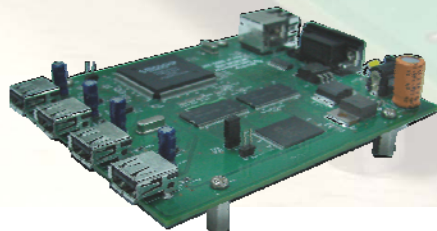
Connectivity to Network

Wired Network

- RJ45 LAN connector
- 10/100 auto sensing
- IP addressing: Static / DHCP

Wireless Network

- 802.11g/802.11n Wireless LAN Interface by PCI Wireless Adapter
- IP addressing: Static / DHCP

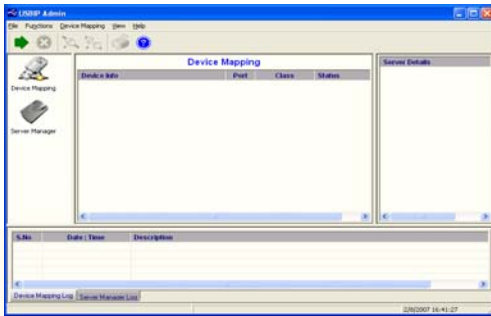


MCS8140 USB EVB

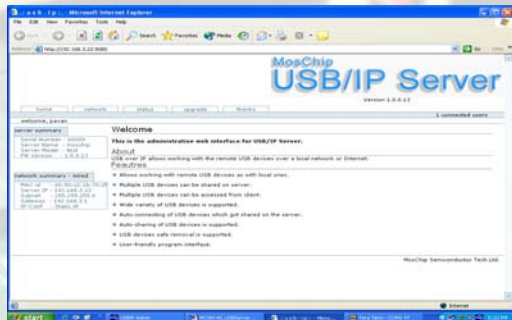
Reference Boards

MCS8140- USB EVB : Supports Wired network only

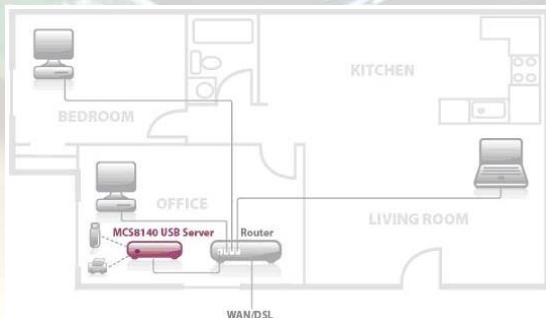
MCS8140-Combo-EVB: Can be used for Wired and Wireless networks



USB SERVER Windows Client SW User Interface



USB SERVER Web Console



MCS8140 USB-SERVER in Home office scenario

Software

1) USB IP Admin Software Utility

USB IP Admin Utility is a user friendly PC software which supports High speed USB Cameras, USB Audio, USB printers, Multi-function printers, Scanners, Storage devices, PDAs, Digital Cameras, Serial adapters, Mice, Keyboards and more.

- Supports all types of USB Devices (Class, Multifunction and Vendor Specific)
- Supports all types of USB Traffic (Control, Bulk, Interrupt and Isochronous)
- Designed to comply Microsoft WHQL Unclassified software category tests
- Server Manager with Search and Display Servers on Network
- Supports both Ethernet and Wi-Fi networks
- Supports USB device safe removal
- User-Friendly Application interface
- Device Mapping feature for adding and removing USB devices
- Printer auto connect feature

USB IP Admin Utility Operating System Support

- Windows : Supports Windows XP, 2003 Server, Vista Operating systems (32bit & 64bit)
- Macintosh : Mac OS 10.4.7 and above
- Linux: Linux Kernel 2.6.15 and above

2) Embedded Web server for quick configuration

3) Linux 2.6.15 based Embedded Firmware

Documentation & Design Kit

Refer to MCS8140 Design Kit document for details on different deliverables from MosChip

http://www.moschip.com/data/products/MCS8140/MCS8140_PB_DK.pdf

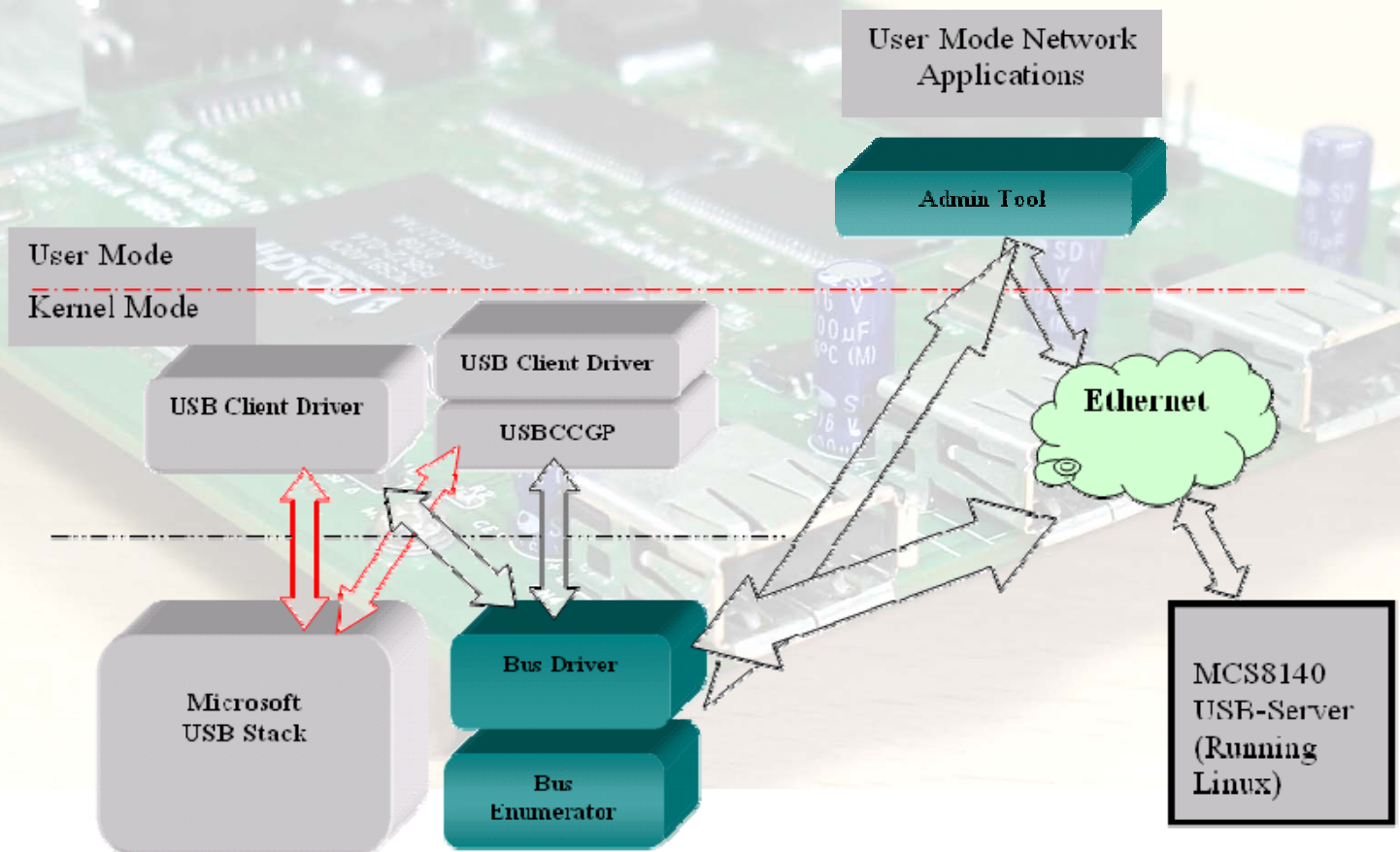
Minimum System Requirements for MCS8140 USB Server application

- 1) MCS8140 - EVB with 32MB SDRAM & 8MB Flash
- 2) PC with Windows XP SP2 Operating System

4) Brief description of USB Server Windows Client software

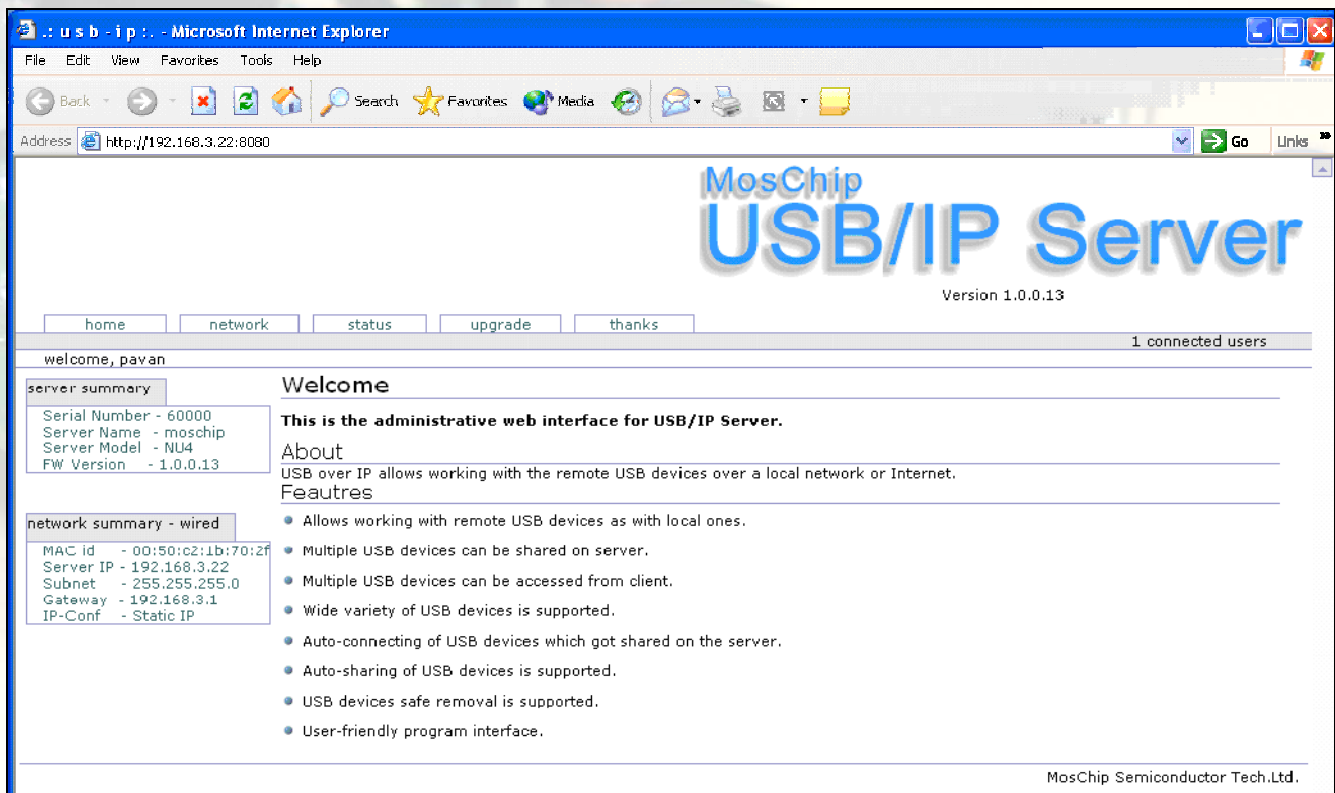
MCS8140 Client software consist of the following components

- Virtual USB Bus Enumerator Driver : This driver enumerates and loads virtual bus drivers for each MCS8140 USB Server found on the network.
- Virtual USB Bus Driver : This driver enumerates and loads the USB Client drivers on top of it. USB Client drivers then send all requests to this bus driver that in turn encapsulates the requests and sends them to the server in the form of an USB-IP RFC packet. Once a response is received from the server in completes the USB requests of the client drivers.
- Admin Tool : GUI Utility that provides Device Mapping functionality for a user to connect and disconnect various devices found on the network. It also includes a Server Manager that lists and provides option to configure various setting on the server
- Setup and Uninstall Utilities



5) Embedded Web Server Interface & PCI to 802.11g/802.11n driver support

- Supports web based network configurations and status reporting
- UI is password protected
- Displays network configuration of MCS8140 board i.e
 - IP address
 - Mac address
 - DHCP configuration
 - Firmware Version
- Supports configuration of both wireless and wired network interface
- Web-console can display list of available WiFi routers in vicinity for users selection
- Supports DHCP client for automatic configuration of IP Address
- Supports display of number of USB devices connected, name and its details
- Gives status of the device, if it is free or busy
- Displays the IP address of the PC client connected to this USB device on MCS8140 board



For Wireless Network support, Linux driver support added to following 802.11g/802.11n WiFi cards in MCS8140 USB Server firmware build. Driver support can be added to any other PCI Device, if its Linux driver is available as source.

- Buffalo Air station 54Mbps Adapter ELI2-PCI-G54 (based on Broadcom BCM4306KFB)
- ALL271 802.11g WiFi adapter (based on Prism Chipset)
- Ralink 802.11g Wireless Network Mini-PCI Card (based on Ralink RT2560 chipset)
- SparkLAN WPIR-501 802.11n PCI Adapter(based on Ralink RT2860 chipset)
- SparkLAN WMIR-215GN 802.11n Mini PCI Module(based on Ralink RT2860 chipset)

6) USB Server Device Interoperability List

Following USB Devices were tried on MCS8140 EVB in-side MosChip using USB Server Firmware Build. Windows XP 32bit/SP2 Operating System used on remote host as default setup. List below is for the devices tried at MosChip. Any USB device is expected to work on MCS8140 USB Server !!!

MCS8140 USB Server application is based on open architecture, where-in MCS8140 box Virtualizes the connected USB devices onto remote Client. MCS8140 Client installed on remote host interacts with MCS8140 USB Server box & enables remote access. In this approach device drivers of connected USB device are installed on remote Host only, as if the device is connected to its USB Ports.

USB Device Class	Type of Device	Make	Model	USB Speed	Remarks
ISOC - IN	Webcam	Logitech	Quickcam Messenger	USB 1.1	Working
			Quickcam Easy	USB 1.1	Working
			Quickcam Go	USB 1.1	Working
			Quickcam Pro 3000	USB 1.1	Working
			Quickcam Pro 4000	USB 1.1	Working
			LifeCam VX-1000	USB 1.1	Working
			LifeCam VX-3000	USB 1.1	Working
		Frontech	e-CAM	USB 1.1	Working
		Creative	Vista Plus Webcam	USB 1.1	Working
ISOC - OUT	Speaker	Quantum	QHMP 500lm_8lm	USB 1.1	Working
		Sony	C-Media chipset based USB Speakers	USB 1.1	Working
		Logitech	V10 Notebook Speakers	USB 1.1	Working
		Microsoft	LifeChat LX-3000 Stereo Headset	USB 1.1	Working
HID	Keyboard	TurtleBeach	C-Media based USB Sound Card dongle	-	Working
		Acer		USB 1.1	Working
		Apple MAC	MAC Extended keyboard	USB 1.1	Working
		Microsoft	Microsoft comfort curve keyboard	USB 1.1	Working
	Mouse	Microsoft	Microsoft Internet Pro Keyboard	USB 1.1	Working
		Microsoft	Microsoft Basic Mouse	USB 1.1	Working
		Apple	Apple Optical Mouse	USB 1.1	Working
			Apple Mouse	USB 1.1	Working
		Logitech	Optical Mouse	USB 1.1	Working
		Sun	3 button Scroll Mouse	USB 1.1	Working
		Dell	Optical Mouse	USB 1.1	Working
		IBM	Optical Mouse	USB 1.1	Working
	Joystick	Microsoft	Joystick	USB 1.1	Working

USB Server Device Interoperability List contd.....

USB Device Class	Type of Device	Make	Model	USB Speed	Remarks
Bulk	Mass Storage Devices	Transcend	1GB	USB 2.0	Working
			2GB JF V30	USB 2.0	Working
		Toshiba Transmemory		USB 2.0	Working
		Apple	iPod shuffle- 1 GB	USB 2.0	Working
		Apple	iPod – 30 GB	USB 2.0	Working
		Kingston	DataTraveler - DTI/1GB	USB 2.0	Working
		Kingston	DataTraveler Mini Fun -DTMFP/2GB	USB 2.0	Working
		SanDisk	SanDisk Cruzer Micro 1GB	USB 2.0	Working
		Western Digital (Ext HDD)	WD600 U017 - 60GB GO	USB 2.0	Working
			WDXMS1600 - 160GB (SATA to USB Initio controller)	USB 2.0	Working
			WDXMS800 - 80GB	USB 2.0	Working
		ViPower	VP-2528 Pocket Drive	USB 2.0	Working
		Zippys	USB to IDE drive (40GB)	USB 2.0	Working
		Phillips-IDE to USB	SPD5200CC/96S - IDE to USB Prolific Chipset	USB 2.0	Working
		CoolGear-SATA to USB	SATA to USB JMicron JM20339 Chipset	USB 2.0	Working
		MTC IDE -USB External enclosure	IDE to USB Prolific Chipset	USB 2.0	Working
		Initio IDE to USB Device	Model: ST940815A (Initio INIC-1530L chipset)	USB 2.0	Working
	DVD ROM Drive	NEC	NEC DVD ROM	USB 2.0	Working
Printer Class	Printers	HP	Photosmart C6188 All-In-One	-	Working
			Photosmart C3100 All-In-One	-	Working
			Deskjet F380 All-In-One	-	Working
			Business Inkjet 1200	-	Working
			Deskjet 3940	-	Working
			Deskjet D2360	-	Working
			Deskjet 3740	-	Working
			Deskjet 3745	-	Working
			Deskjet 840C	-	Working
			Laserjet 1200	-	Working
			Laserjet 1020	-	Working
		Brother	MFC7420	-	Working
			HL-2040	-	Working
		Dell	AIO 946	-	Working
		EPSON	EPL-6200L	-	Working
			Stylus C87 Plus	-	Working
			Stylus C58 Plus	-	Working
			LX-300 +II	-	Working
		WeP	Bloom Laser 1600	-	Working
			Bloom Laser 800 DX	-	Working
		Canon	iP1700	-	Working
		Canon	Canon MP160 MFP	-	Working
		Samsung	ML 1210	-	Working
Scanner	Scanners	HP	Scanjet 4470C	-	Working
			Scanjet 1300C	-	Working

USB Server Device Interoperability List contd.....

USB Device Class	Type of Device	Make	Model	USB Speed	Remarks
Serial/Parallel Class	USB to IO Devices	MosChip	MCS7840 - USB to 4 Serial	USB 2.0	Working
			MCS7820 - USB to 2 Serial	USB 2.0	Working
			MCS7720 - USB to 2 Serial	USB 1.1	Working
		Prolific	PL2303	USB 1.1	Working
		FTDI	USB to 4 Serial	USB 1.1	Working
	IrDA	MosChip	MCS7780	USB 1.1	Working
MCS7784			USB 1.1	Working	
Network Adaptors	USB to Ethernet	MosChip	MCS7830	USB 2.0	Working
	TV Tuner	Diamond Multimedia	PVR660	USB 2.0	Working
	USB Wireless Dongle	Belkin	USB wireless 802.11g Adapter	USB 1.1	Working
	Skype Phone		USB Audio Device	USB 1.1	Working
	YAP Phone		USB Audio Device	USB 1.1	Working

Note: OEM's USB-VGA adapter and Siemens MC75 USB Modem has been proven with special Firmware. More information for above device support can be obtained by writing to support-soc@moschip.com

Additional Information:

Write to support-soc@moschip.com for further technical queries. sales@moschip.com can be contacted for commercial queries.

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