SkyMote

New SkyMote family.

Bridges:
SMB-ETH SkyMote Ethernet Bridge (Spring 2010)
SMB-USB SkyMote USB Bridge (Spring 2010)
SMB-REP SkyMote Repeater (Spring 2010)

Motes:
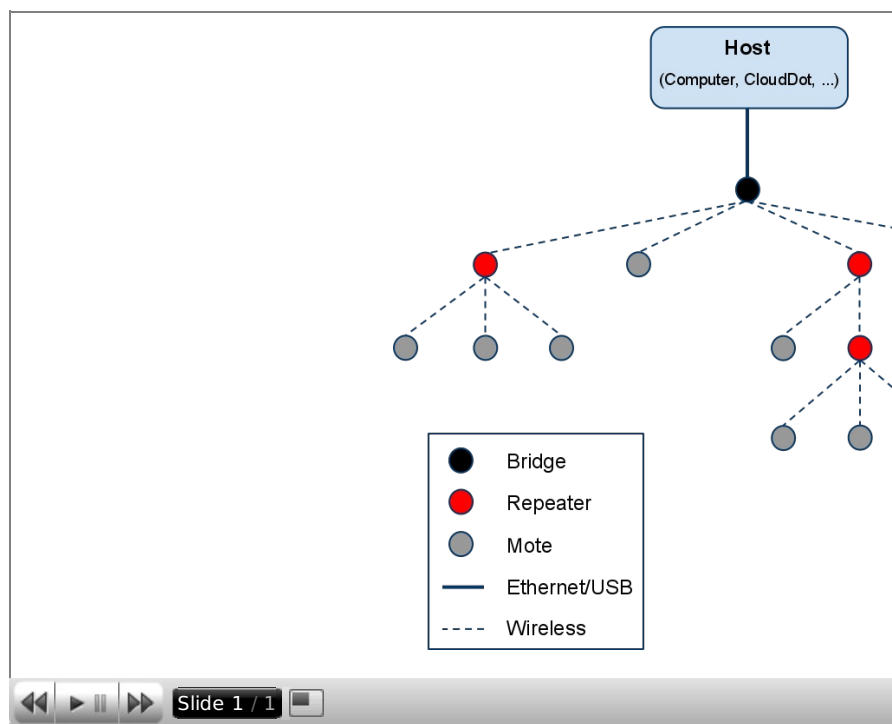SM-TLB Temp/Light/Bump SkyMote (Spring 2010)
SM-TLB-RH Temp/Light/Bump plus Humidity SkyMote (Availability TBD)
SM-DVM Digital Voltmeter SkyMote (Availability TBD)

SkyMote devices create a 2.4 GHz 802.15.4 based Wireless Sensor Network (WSN). Our network has control capability also, so Wireless Sense & Control Network (WSCN) might be a better term.

All wireless communication is secured with 128-bit AES encryption. A password can be used to lock a mote so it will not join unauthorized networks.

A SkyMote network has a tree topology:

Bridge: A bridge is used to connect the wireless network to a host via Ethernet or USB. Each network has only 1 bridge. The wireless tranceiver on a bridge is always on. A bridge can have up to 16 children (repeaters and motes).

Repeater: Creates a wireless link between 1 parent and up to 16 children. The wireless tranceiver on a repeater is always on.

Mote: End-device with sensors and actuators. Generally operated in sleeping mode, where the device (including wireless transeiver) is shut down most of the time, and wakes up periodically. A sleeping mote cannot have children.
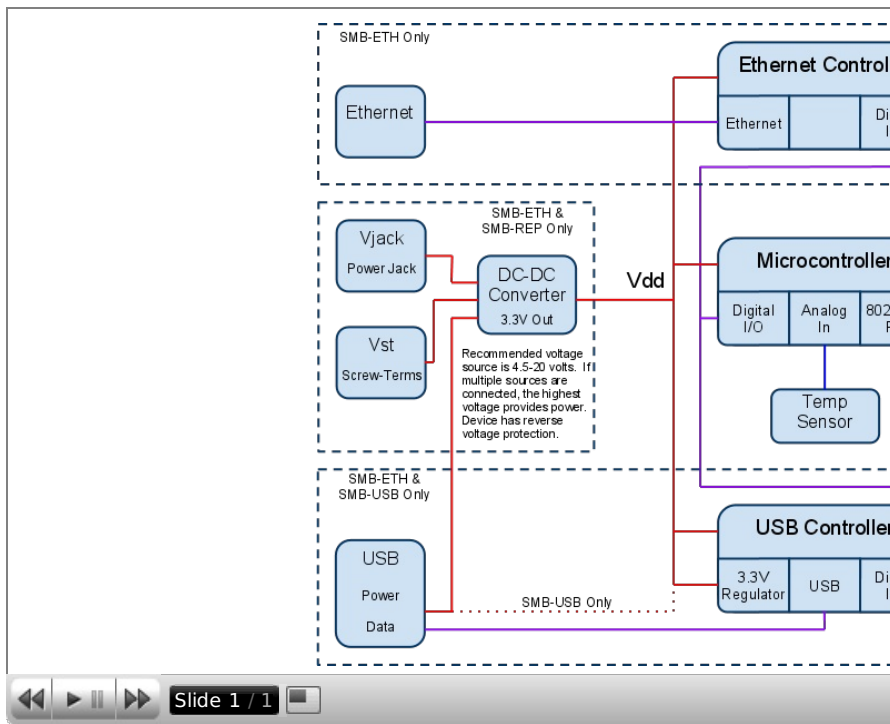
The network device limit (bridge + repeaters + motes) is currently set at 128.

SMB-x (Bridge/Repeater)

SMB-ETH   SkyMote Ethernet Bridge
SMB-USB   SkyMote USB Bridge
SMB-REP   SkyMote Repeater

A SkyMote network requires 1 bridge to link the wireless network to a host via USB or Ethernet.

The SMB-ETH has all features (SkyMote Wireless, Ethernet, USB, Vjack/Vst), while the SMB-USB and SMB-REP are subsets.

There are 3 ways to provide power to the SMB. Multiple can be connected at the same time, in which case the one with the highest voltage will actually provide power.

Vusb: Power from the USB cable.

Vjack: 2.1 x 5.5 mm center-positive power jack.

Vst: Screw-terminals. Same specifications as Vjack.

[1]

[2]

FCC PART 15 STATEMENTS

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 party responsible for compliance could void the user's authority to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.