Focus Enhancements Semiconductor Products
Model No.: 444-2196

USER MANUAL
FCC ID: UA92196

Issue Date: 20 May, 2009
Revision: 1.0

Revision History

Rev. No.	History	Issue Date	Remarks
1.0	Draft Release	20 May, 2009	Pending FCC Grant

Model No. 44-2196
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1.0 Regulatory Statement

The United States Federal Communication Commission has established certain rules governing the use of electronic equipment.

1.1 FCC Certification

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.

This device 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 when the equipment is operated in a residential installation. This equipment generates, uses, and radiates radio frequency energy and if not installed and used in accordance with the instruction guide, may cause harmful interference to radio communications.

CAUTION: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This radio is compliant with FCC RF Exposure requirements for mobile devices. Users are cautioned to maintain 20 cm from the transmitter to ensure compliance.

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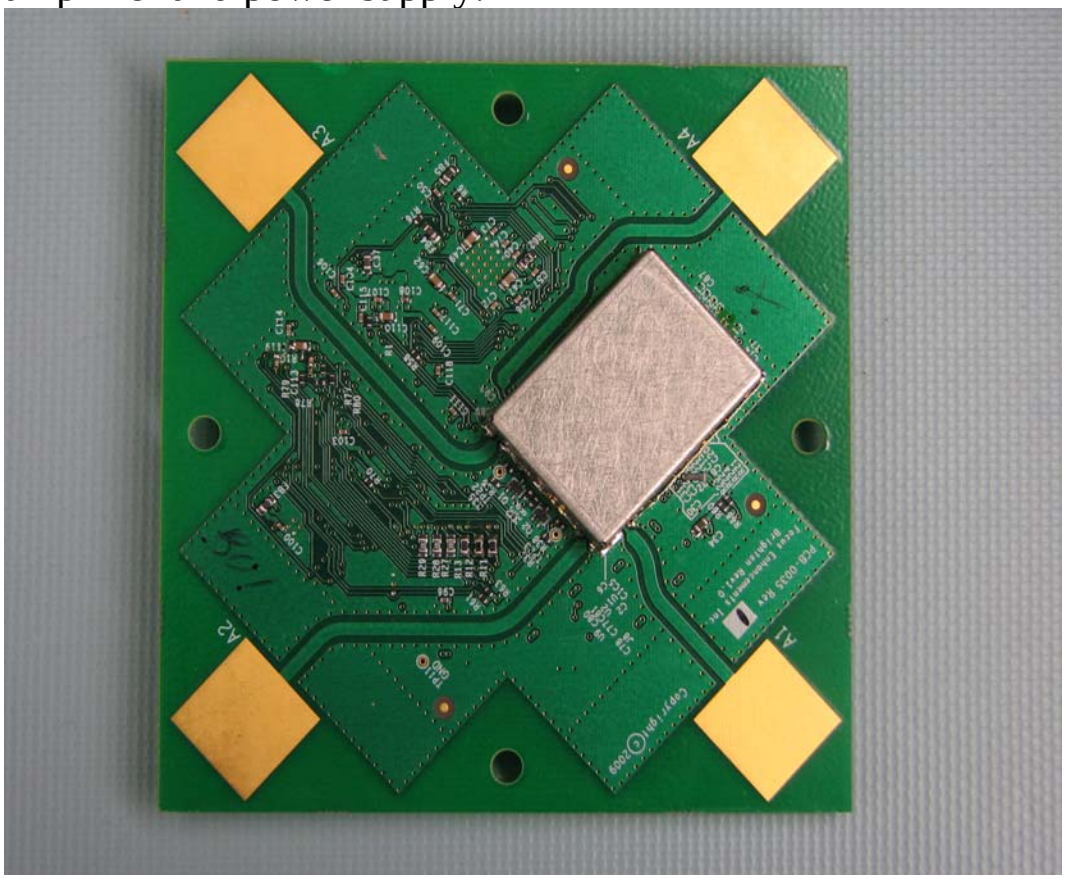
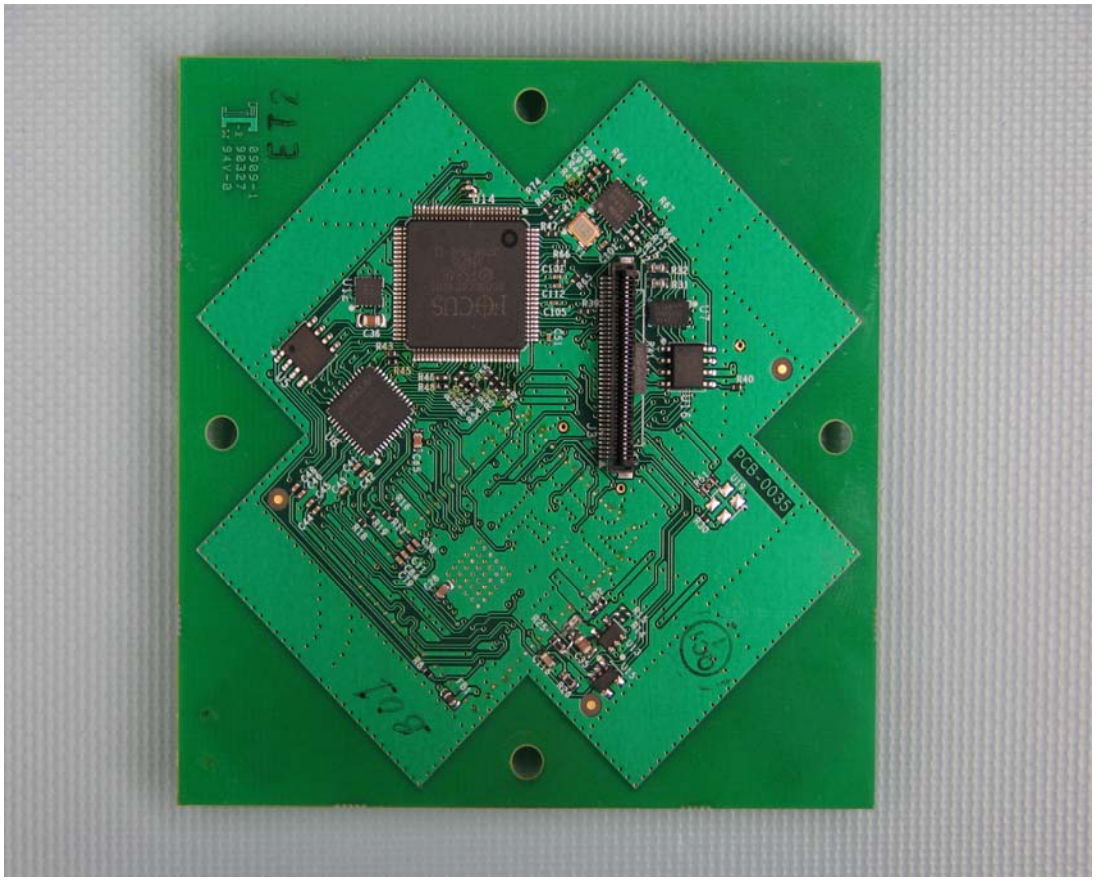
2.0 Introduction:

The Summit FS848 Slave Module is a production ready module designed for active speakers in Focus Enhancement's Summit Technology HD Wireless audio solution. The module mounts to the top interior wall of a typical speaker. The module includes a patented, low cost, high gain quad diversity PCB antenna integrated in the module to provide superior wireless performance without external antennas. A 40 pin interface provides, I2S digital audio outputs, power, I2C and GPIO signals for control of the amplifier and power supply.



FRONT SIDE



BACK SIDE

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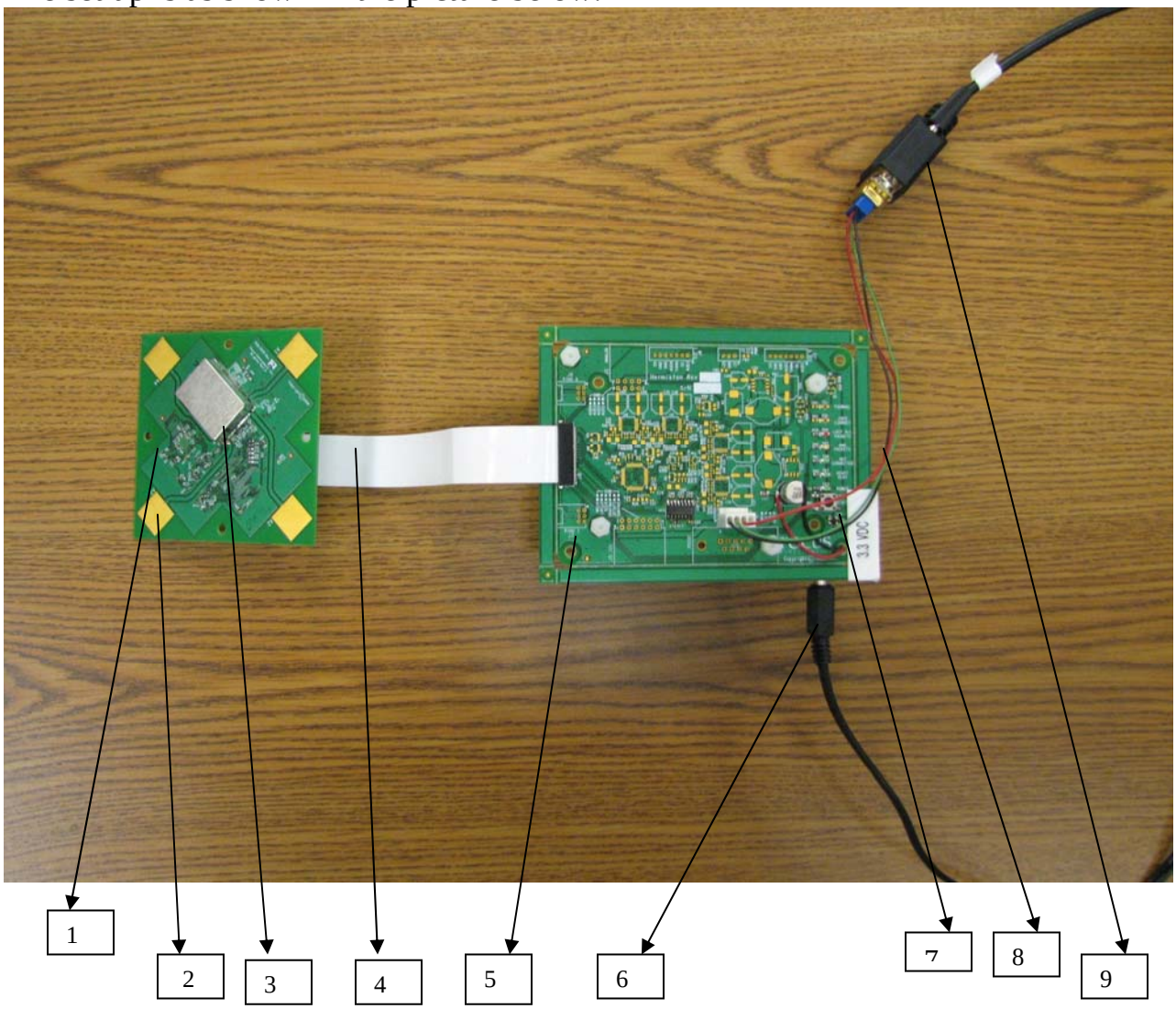
CAUTION: DO NOT TRY TO REPLACE THE ANTENNAS

3.0 Installation and Test Procedure

A host interface board is used to provide the necessary regulated power supply to the Summit FS848 Slave Module.

The set up is as shown in the picture below.



1	Brighton (Slave Module)
2	Integrated Antenna
3	RF Can
4	Multi pin flex cable
5	Hermiston (Interface Board)
6	Power Input 3.3V
7	Reset button
8	RS232 interface
9	Serial cable

3.1 Boot:

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- Download Focus Enhancement's terminal software onto your computer.
- Connect a multi pin flex cable from Hermiston (interface board) to Brighton (Slave Module) as shown in the picture.
- Connect a 3.3V DC supply to Hermiston (interface board) from a variable or a fixed source.
- Connect the RS232 interface from J9 of the interface board (Hermiston) to the serial cable.
- Connect the serial cable to the computer's COM port.
- Select the right COM port in the terminal window and verify other selections with the screen shot below.
- Press the reset button for the DUT to boot. Your screen should look as below.

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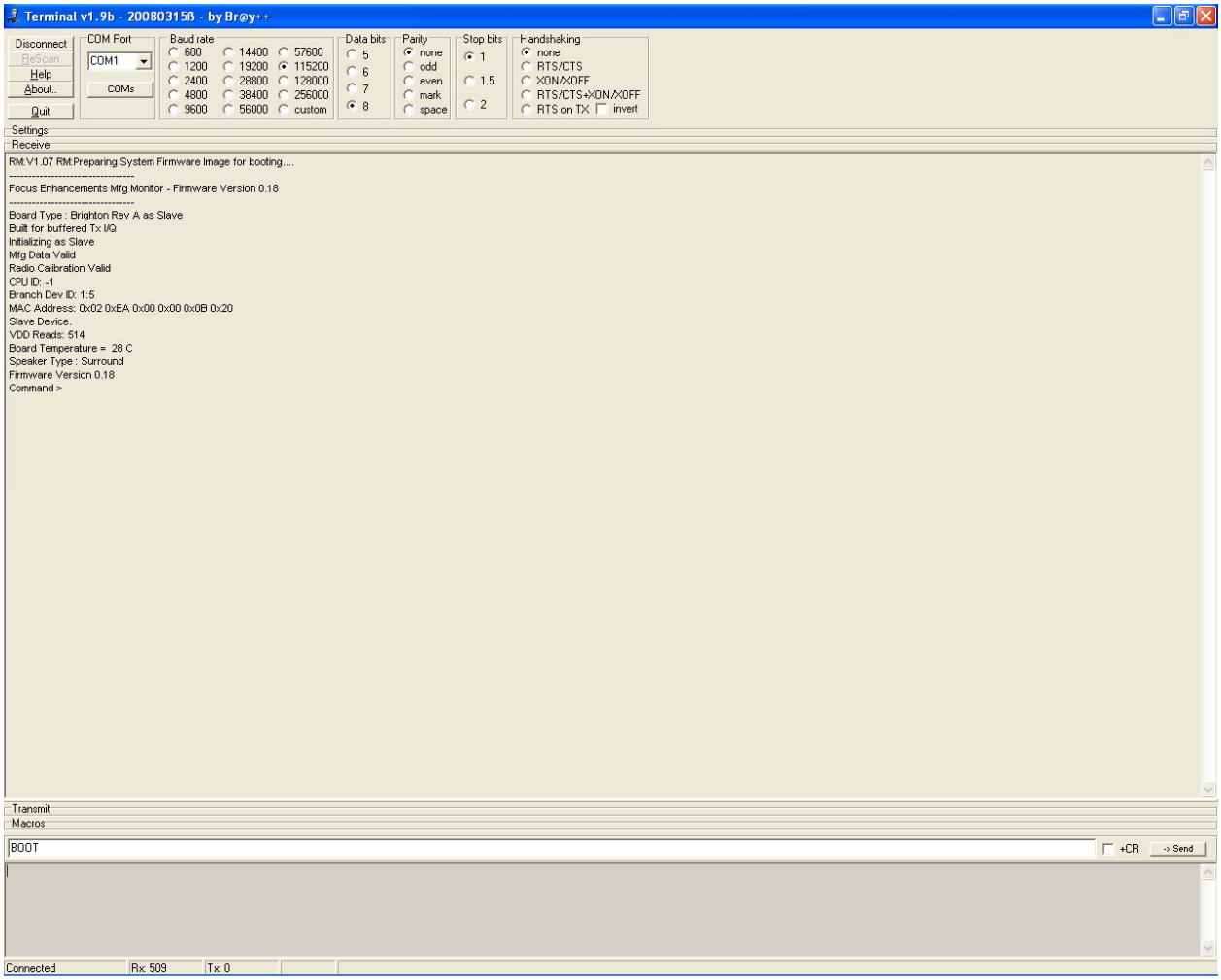

3.2 Set Channel

Type the command below for setting a channel:

radio ch 5180

This sets the device to channel no. 36 whose center frequency is 5180

The same can be done to the following frequencies/channels.

CH#	Center Freq (MHz)
36	5180
40	5200
44	5220
48	5240
149	5745
153	5765
157	5785
161	5805
165	5825

3.3 Set Data rate

The data rate of the device can be set using the following command:

Radio rate 6

This command sets the date rate to 6Mbps and this is the only data rate that is the client device is operated upon.

3.4 Set transmit power

The transmit power of the DUT is set using three steps.

- Set the calibrated hex value in the register
- Select the appropriate TPC register
- Start to transmit

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3.4.1 Set the calibrated hex value in the register

Command*:*

radio txpwr 0 (Hex Number)

For the hex number, please refer to the table below calibrated values for a particular channel. Every audio client device comes with its own unique calibration table.

Example: If the DUT has to transmit at +8dBm at 5180

radio txpwr 0 24

In the above command "0" is the TPC setting and 24 is the appropriate hex value from the attached calibration table.

Calibration Table
SN: 1

Channel	Hex#
5180	24
5200	24
5220	24
5240	24
5745	2F
5765	30
5785	32
5805	34
5825	34

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3.4.2 Select the appropriate TPC register

TPC registers can be set from 0 – 7. In the above command TPC 0 has been used to set the hex value. The following command selects the particular TPC setting.

radio rftx 0

3.4.3 Start to transmit

The following command is used to start transmitting

tx -1 (transmit continuously)

If a fixed number of packets need to be transmitted then use

tx 1000 (1000 is the number of packets)

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4.0 System Requirements

Operation:

PC with COM ports

Programming:

Windows XP and higher