



AVNERA

September 12, 2008

Subject: Original certification of the Avnera AVMD7500 modular transmitter

References: FCC ID V3CAVMD7500A and IC: 7853A-AVMD7500A

To whom it may concern:

Avnera Corporation submits documentation (under separate cover) in support of FCC and Industry Canada certification of the AVMD7500 modular transmitter product. This device has been tested and is classified as a mobile device per FCC Part 2.1091.

The AVMD7500 module is the heart of a multi-source/multi-destination high-quality wireless audio distribution system. The module can operate as either the source end ("Arbiter") or destination end ("Client") based on configuration firmware; the RF performance of the module in either configuration is the same. The heart of the module is the Avnera AV7500 custom IC which contains the audio I/O and baseband signal processing functions, RF transceiver and signal synthesizer, and system control processor.

The system can support up to twelve (12) 16b/48kHz audio channels that can be configured as mono or stereo transport paths; alternatively, the system can be set up to handle four (4) 24b/96kHz HD channels. In addition, the over-the-air (OTA) protocol provides bandwidth for link management as well as customer system data such as volume and source control functions.

The module provides eight (8) I2S digital audio ports which are configurable as either inputs or outputs to/from system audio resources.

The wireless link uses a 16MHz-wide OFDM spectrum operating in the 2.4-2.5GHz ISM band; the transmit spectrum may be centered on 2412MHz, 2438MHz, or 2462MHz, the choice being based on continuous monitoring of the spectrum for the lowest level of interference. The transmitter uses an on-module RF power amplifier with associated filtering and matching networks to amplify the signal from the low-power transmitter on the AV7500 IC to the antennas. The end user will not be able to vary the output power.

The signal from the RF PA is applied to two identical external antennas, each having a maximum measured gain of +4.7dBi. These antennas may be separated in space and oriented at different angles relative to one another in order to gain the benefits of polarization- and spatial diversity for multipath mitigation, but only one of them is operational at any given time. The choice of which antenna to use is based on real time signal strength measurements; note that each antenna is used for *both* transmit and receive purposes.

Avnera Corporation

16505 NW Bethany Court, Suite 100 • Beaverton, Oregon 97006

phone 503.718.4100 • fax 503.718.4101



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The transmission protocol is proprietary. The AVMD7500 module utilizes a 2.4-2.5GHz ISM-band transceiver and is therefore classified as an intentional emitter under FCC Part 15.247:2007 and Industry Canada RSS-210:2007 regulations.

Respectfully submitted,

Frederick G Weiss

Frederick G. Weiss
Avnera Fellow for RF and Analog Architecture
Avnera Corporation
16505 NW Bethany Court, Suite 100
Beaverton, OR 97006

503-718-4100
503-718-4101 (Fax)

Avnera Corporation

16505 NW Bethany Court, Suite 100 • Beaverton, Oregon 97006
phone 503.718.4100 • fax 503.718.4101