



## SUMMIT SEMICONDUCTOR LLC

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May 9, 2013

Federal Communications Commission  
Authorization and Evaluation Branch  
7435 Oakland Mills Road  
Columbia, MD 21046

Subject: Request for unlicensed Modular Transmitter Approval.

Dear Application Examiner:

Summit Semiconductor LLC hereby requests FCC Equipment Authorization and Evaluation branch to approve Summit Semiconductor's Model 444-2224 Audio Wireless Client Module, FCC ID-UA9600 as having a full modular approval. The 444-2224 Audio Wireless Client Module is a production ready module designed for audio speakers in Summit Semiconductor's high definition wireless audio solution. The module is designed to be mounted to the interior of the speaker cabinet. This letter addresses the information required by points one through eight of 47 CFR 15.212.

1. **The modular transmitter must have its own RF shielding.** The radio section of the module is enclosed within a RF shield. The RF shield is solder mounted to the exposed grounding of the circuit board. The point of contact between the shield and the board has multiple ground contacts. The internal photos exhibit has pictures of the wireless client device with and without the shield. The shield suppresses spurious radiations as per FCC requirements.
2. **The modular transmitter must have buffered modulation/data inputs.** The 444-2224 has buffered data inputs from an on-chip embedded processor. The purpose of this is to transmit control and status information back to the master device. This method insures compliance with Part 15 requirements under conditions of excessive data rates or over modulation.

3. “The modular transmitter must have its own power supply regulation.” The 444-2224 digital wireless client device receives power from an external +3.3 VDC supply via an industry standard power supply jack. The 3.3 volt DC is regulated to 1.2 and 2.8 volts VDC as well as it uses the 3.3 VDC directly. In order to comply with the requirement that all voltages be regulated, we have included an over voltage detection circuit which ceases RF transmission when the input voltage exceeds 3.6 VDC. Also, the technical report exhibit contains AC power line conducted emissions data taken with the EUT powered from a linear power supply that contains no EMC suppression components.

4. “The modular transmitter antenna must comply with the antenna and transmission system requirements of section 15.203, and 15.204(c).” The modular device complies with all FCC antenna requirements. The modular device is designed in such a way that the antenna is integrated with the modular device. As per the FCC 15.203 requirement, this can be considered as permanently attached and doesn’t give the user any option to replace it. A list of usable antennas is not provided since the user manual clearly instructs the user that the modular device is compatible with only the integrated antennas. Please see the internal exhibit photos for further details. The antenna report also provides a description as to how the modular device complies with the de facto EIRP limit.

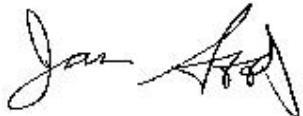
5. “The modular transmitter must be tested in a stand-alone configuration.” As described in the technical report exhibit and the test set up photos of the test report included in the filing for FCC equipment authorization, the 444-2224 digital wireless client device module was tested as a stand-alone device. The 444-2224 is designed with an industry standard 40 pin multi pin flex cable and it is greater than 10 cm from the host device.

6. “The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying the FCC identification number.” A FCC ID and model number is labeled on every modular device. FCC ID label and location exhibit has a photograph which shows the exact location of the label. Since the FCC ID number will not be visible when the module is installed inside the audio speaker, another label with the same FCC ID will be applied to the exterior of the speaker.

7. “The modular transmitter must comply with any specific rule or operating requirements applicable to the transmitter and the manufacturer must provide adequate instructions along with the module to explain any such requirements.” The EUT complies with all specific rules such as modulation scheme, modulation type, bandwidth, antenna requirements, power supply regulation, and suppression of spurious emissions and so on. A detailed user manual is provided with every EUT which instructs the user to maintain compliance as per the requirements of the Commission. The manual also cautions the user not to make any changes or modifications not approved by the party responsible for compliance. Please see the operating description exhibit for further details to understand how the EUT complies with specific rules and operating requirements as per FCC.

8. "The modular transmitter must comply with any applicable RF exposure requirements in its final configuration." The EUT is compliant with all applicable RF exposure requirements and EUT is operated in a manner that ensures the public is not exposed to radio frequency in excess of Federal Communication Commission's guidelines. Please see the RF exposure exhibit.

Best Regards

A handwritten signature in black ink, appearing to read "James Svoboda".

James Svoboda  
Engineering Manager