

June 15, 2007

DESCRIPTION OF EQUIPMENT FOR CERTIFICATION

The following list provides the elements required in the FCC Rules Section 2.1033 (c):

1) Manufacturer and Applicant: (c)(1)

Applicant/Manufacturer:
Thomson Broadcast & Multimedia, Inc.
104 Feeding Hills Rd.
Southwick, MA 01077
USA

Manufacturer:
Thomson Broadcast and Multimedia, S.A.
1 Rue de L'Hautil
B.P. 150
78702 Conflans-Ste-Honorine
France

Note: Various portions of the transmitter are built at either of the manufacturing locations listed above depending on factory loading, customer location, and various other business conditions. In all cases, the facility located in Southwick, MA is responsible for the FCC regulatory requirements; therefore, it is the Southwick facility that is making this application for certification.

2) FCC Identifier: (c)(2)

The equipment shall be identified based on the power level rating of the transmitter. The ID shall follow the form of "CHPAFF2k050800". The list below shows all the proposed Product Model numbers.

AFF2k050ADDBUA4AA
AFF2k100ADDBUA4AA
AFF2k200ADDBUA4AA
AFF2k400ADDBUA4AA
AFF2k800ADDBUA4AA

See "FCC ID" document, included with this submission, for details.

- 3) Installation and Operating Instructions: (c)(3)

Instructions for installation and operation are given in the equipment manual , included with this submission. See the document: 453375-108 (submitted in 2 parts).
- 4) Type of Emission: (c)(4)

6M00W7W

COFDM modulation based on Qualcomm's MediaFLO modulation. This is in the process of being standardized through the Telecommunications Industry Association (TIA). Bandwidth is 6MHz.
- 5) Frequency Range: (c)(5)

698-746 MHz band. 6MHz Channels
- 6) Operating Range and Power Variation: (c)(6)

50W – 800W (model dependant)

Variation of output power: For a description on how to set the output power of the transmitter, see section 1.6.3 of the User Manual. (This can be found in "Part 1" of the User Manual submitted as part of this filing.)
- 7) Power Rating: (c)(7)

50W – 800W average power out of the transmitter before antenna with MediaFLO (COFDM) modulation. This application is for a family of transmitters designed to provide power up to 800W. At this time, test data is available for a maximum of 800W, so we are requesting certification for the family of transmitters up to this power level.

Power shall be limited to 50kW ERP when antenna gain is taken into account. In all cases, the transmitter installation shall conform to limits set forth in the FCC rules, Part 27.
- 8) E & I on Final PA Devices: (c)(8)

Drain voltage
Drain current

32V
≅6-7A per device @ nominal power (current is a function of driving power)

9) Tune-up procedures: (c)(9)

AFF2k050800 transmitter tune-up procedures are provided as part of the user manual. Additionally a quick reference has been provided can be found in DOC#36-0041 tune-up section

10) Description and Function of Active Devices: (c)(10)

A list of active devices in the RF chain(s) of the AFF2k050800 transmitter can be found in DOC#36-0041 tune-up section. The relative position of each device may be found by referring to the block diagrams and schematics found in the technical manual The description of all devices for determining and stabilizing frequency, as well as for determining and controlling power and emissions are included as part of the Descriptive Manual, submitted as part of this filing. For ease in understanding this filing, all relevant "blocks" are listed and described below. For circuit descriptions, please consult the Descriptive Manual. An overall block diagram is helpful in understanding the functions of the main subassemblies. Such a diagram is submitted in a document entitled "Interconnection Drawings." The schematic diagrams of each of these sub-assemblies are included in a separate document submission, entitled "Confidential Schematics", and a partial indented parts list showing the breakdown structure of the circuits is included in the document entitled, "Parts List Schematic Guide."

Sirius exciter:	Part Number: 45321627.11 Contains IF frequency generation, RF LO synthesizer, modulation, RF upconversion, and output (low level).
PA Module:	Part Number: 47266731.02 This module provides high power amplification of the RF signal to be transmitted.
Envelop Detector:	Part Number: 47267102 This module supplies a voltage proportional to the RF energy delivered by the set of Power Amplifiers. The referred voltage is then routed to the ALC circuit, which controls the power.
Pre-Amplifier Plug-in:	Part Number 47267453 Among the various functions of this plug-in module is the power regulation task. A dedicated circuit for the Automatic level Control (ALC) accomplishes this function by comparing the detected voltage from the Envelop Detector module to a preset reference voltage.
Channel Filter:	A channel filter suitable for limiting out-of-band emissions is supplied by the end user of the transmitter. Data for the channel filter is provided as part of the Certification Test Report document.

06/15/07

11) FCC Identifier: (c)(11)

The proposed ID number is CHPAFF2k050800.
See "FCC ID" document 36-0039, included with this submission, for details.

12) Photographs: (c)(12)

Photographs of the transmitter and its various sub-assemblies sufficient to meet the requirements are included with this submission. See documents: 22-0059, 22-0060, 22-0057, and 22-0058.

13) Digital Modulation: (c)(13)

A description of the MediaFLO modulation technique is submitted in a separate document 25-0024 entitled, "Digital Modulation Characteristics MediaFLO."

14) Certification Test Data: (c)(14)

The data showing compliance to all FCC requirements is submitted in a separate document 35-0009 entitled, "FCC Type Certification Report."