THALES
BROADCAST & MULTIMEDIA
Thales Broadcast & Multimedia, Inc.
104 Feeding Hills Road
Southwick, MA 01077-9350

August 4, 2006

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:
Thales Broadcast & Multimedia, Inc.
104 Feeding Hills Rd.
Southwick, MA 01077
USA

Manufacturer:
Thales 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 "CHPULT-1K10K2". The list below shows all the proposed Product Model numbers.
TDU2-1K0
TDU2-1K5
TDU2-2K1
TDU2-3K1
TDU2-4K2
TDU2-4K7
TDU2-5K2
TDU2-10K2
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 two manuals, included with this submission. See the documents: Descriptive 10K2 (submitted in 3 parts) and User 10K2 (submitted in 5 parts).

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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)

1kW – 10.2kW (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)

1.0kW to 10.2kW 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 10.2kW. At this time, test data is available for a maximum of 10.2kW, 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	32V
Drain current	≅6-7A per device @ nominal power (current is a function of driving power)

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

Tune-up procedures are provided as part of the user manual. The list below shows a summary of the relevant tune-up procedures and their locations in the user manual. In addition to the tune-up procedures, a separate document entitled "Alignment Procedures" details the first time set up of relevant sub assemblies, for example when a sub assembly is first installed or needs to be replaced in case of failure.

Procedure for adjusting the calibrated transmitter power..... User Manual Sec 1.6.2.
Procedure for adjusting the required transmitter power..... User Manual Sec 1.6.3.
Procedure for changing the modulator input ..... User Manual Sec 1.6.4.
Procedure for changing the adaptive correction parameters..... User Manual Sec 1.6.5.
Procedure for changing the frequency of the RF synthesizer ..... User Manual Sec 1.6.7.
Procedure for changing the ripple and shoulder threshold settings ... User Manual Sec 1.6.8.
Procedure for changing RF digital power threshold settings for triggering alarm and fault signals
..... User Manual Sec 1.6.10.
Procedure for setting the time and the date..... User Manual Sec 1.6.12.

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

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: 61389730.01 Provides high power amplification of the RF signal to be transmitted.
Multiplex Card:	Part Number: 45324500.01 Multiple functions, but for the purposes of power control this card controls the transmission of AGC voltages from the power amplifiers to the exciter. All AGC voltages from the amplifiers are applied to an "OR" logic gate. This "OR" gate on the multiplex card extracts the largest of these AGC voltages. This voltage is used to control the power delivered by the power amplifiers.
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.

11) FCC Identifier: (c)(11)

The proposed ID number is CHPULT-1K10K2.
See "FCC ID" document, 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 in the two manuals: User and Descriptive. Also reference document number 22-0055 for photos of the Printed circuit board assemblies.

13) Digital Modulation: (c)(13)

A description of the MediaFLO modulation technique is submitted in a separate document entitled, "FLO Modulation."

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

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