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Federal Aviation Administration
Office of Spectrum Policy and Management
ASR-1
800 Independence Avenue, SW
Washington D.C 20591
USA

Reference: **FAA Notification of FCC Equipment under FCC Part 87**
AVIATOR UAV 200
Satellite Communication Transceivers
FCC ID: 2AS39-AVIATORUAV200 (Pending)

APPLICANT: **Omnipless Manufacturing (Pty) Ltd, trading as Cobham Aerospace Communications**

Dear Sir,

In accordance with Federal Communications Commission (FCC) Rules and Regulations, Part 87.147(d), Omnipless Manufacturing (Pty) Ltd trading as Cobham Aerospace Communication Cape Town hereby notifies the Federal Aviation Administration of its filling with the FCC of an application for certification of the AVIATOR UAV 200.

Please find below the information required pursuant to Part 87.147(d)(1).

1) Description of Equipment

The AVIATOR UAV 200 is an aeronautical SATCOM terminal intended for the unmanned aircraft supporting Inmarsat SwiftBroadband Class 4 satellite communication services.

The AVIATOR UAV 200 is a "single box" terminal comprising of an integrated phased array antenna, duplexer, high power amplifier, and modem and shown in Figure 1.

Figure 1: AVIATOR UAV 200 terminal

The AVIATOR UAV 200 terminal provides one baseband communication channel capable of supporting full-duplex of SwiftBroadband functionality.

The terminal supports Inmarsat SwiftBroadband signals using QPSK and QAM and provides the following Class 4 SwiftBroadband connectivity:

- Single channel operation.
- Maximum background class throughput of 200 kbps.
- Maximum streaming class throughput of 32 kbps.

The terminal only supports data communication and no voice services.

The external interfaces of the terminal is given in Table 1.

	User Interface	Quantity
1	Ethernet (10BaseT)	2
2	Serial Port (RS-232)	2
3	Discrete Reset	1
4	Power (14 or 28 V DC)	1

Table 1: External Interfaces

2) Manufacturer's Identification

The Omnipless Manufacturing (Pty) Ltd model identification and FCC Identifier for the AVIATOR UAV 200 are given in Table 2. For reference, Table 3 lists the supported Inmarsat services.

Equipment Identification		
Model	FCC ID (Pending)	Canadian ID (Pending)
AVIATOR UAV 200	2AS39-AVIATORUAV200	24994-AVIATORUAV200

Table 2: Manufacturer's Identification

Services	Inmarsat Service
IP service (up to 200 kbps)	SwiftBroadband Class 4
IP streaming service (8/16/32 kbps)	SwiftBroadband Class 4
Built-in router option with DHCP and Network Address Translation (NAT)	SwiftBroadband Class 4

Table 3: AVIATOR UAV 200 Inmarsat Services

3) Antenna Characteristics

The AVIATOR UAV 200 terminal comprises an integrated antenna and is not designed to operate with external antennas.

4) Rated Output Power (EIRP)

Type	RF Power EIRP [dBW]
AVIATOR UAV 200	10.0dBW +/- 1.0 dB

Table 4: EIRP

5) Emission Types and Characteristics

The AVIATOR UAV 200 terminal emission types and characteristics are summarized in Table 5.

#	Bearer	Symbol Rate (kSym/s)	Modulation Type	Necessary Bandwidth (kHz)	FCC Designator
1	R5T1XD-1B	33.6	16-QAM	50	50K0D1D
2	R5T2XD-1B	67.2	16-QAM	100	100KD1D
3	R5T4.5XD-1B	151.2	16-QAM	200	200KD1D
4	R20T1XD-1B	33.6	16-QAM	50	50K0D1D
5	R20T2XD-1B	67.2	16-QAM	100	100KD1D
6	R20T4.5XD-2B	151.2	16-QAM	200	200KD1D
7	R5T2QD-1B	67.2	QPSK	100	100KG1D
8	R5T4.5QD-1B	151.2	QPSK	200	200KG1D
9	R20T0.5QD-1B	16.8	QPSK	25	25K0G1D
10	R20T1QD-1B	33.6	QPSK	50	50K0G1D
11	R20T2QD-1B	67.2	QPSK	100	100KG1D
12	R20T4.5QD-1B	151.2	QPSK	200	200KG1D
13	R80T0.5Q-1B	16.8	QPSK	25	25K0G1D
14	R80T1Q-1B	33.6	QPSK	50	50K0G1D
15	FR80T2.5X4-5B	84.0	4-QAM	100	100KD1D
16	FR80T2.5X16-5B	84.0	16-QAM	100	100KD1D

Table 5: Emission Types and Characteristics

6) Frequencies of Operation

In the USA the SwiftBroadband service is provided by the Americas (AMER) I-4 satellite. The operational frequencies for SwiftBroadband are given in Table 6.

Operation	Frequency (MHz)
Receiving	1525.0 to 1559.0
Transmitting	1626.5 to 1660.0

Table 6: Frequencies of Operation

7) Receiver Characteristics

The receiving characteristics of the AVIATOR UAV 200 meets the applicable requirements of the Inmarsat System Definition Manuals (SDMs).

If the information contained in this letter meets your approval, Omnipless Manufacturing (Pty) Ltd trading as Cobham Aerospace Communications Cape Town herein requests that your office notify the FCC's Office of Engineering and Technology Laboratory, Authorization and Evaluation Division, in order to indicate that, pursuant to Section 87.147(d)(2) of the FCC's rules, the FAA does not have an objection to the certification of the equipment described in this letter.

If you have any questions on the above information, please feel free to contact me directly.

Sincerely,

SJ Spammer
Program Manager

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