

Date: Sep. 04, 2018

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 200/200D/300/300D/350/350D, Aeronautical Earth Station
Satellite Communication Transceivers.
FCC ID: ROJ-AVIATOR (Pending)**

APPLICANT: Thrane & Thane A/S Trading as Cobham SATCOM

Dear Sir,

In accordance with Federal Communications Commission (FCC) Rules and Regulations, Part 87.147(d), Thrane & Thane A/S Trading as Cobham SATCOM hereby notifies the Federal Aviation Administration of its filing with the FCC of an application for certification of the 5040A/5040A-THD Satellite BGAN Unit (SBU) and the 5016A/5016A-THD High Power Amplifier, Low Noise Amplifier, Diplexer (HLD). Both units are used in the AVIATOR 200/200D/300/300D/350/350D systems.

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

1) Description of Equipment

The 5040A/5040A-THD Satellite BGAN Unit (SBU) and the 5016A/5016A-THD High Power Amplifier, Low Noise Amplifier, Diplexer (HLD) supports the Swiftbroadband aeronautical satellite communications service. The transceiver meets the applicable requirement of RTCA/DO-210D "Minimum Operational Performance Standard for Geosynchronous Orbit Aeronautical Mobile Satellite Services (AMSS) Avionics".

The AVIATOR 200/200D/300/300D/350/350D system are comprised of two units: the 5040A/5040A-THD Satellite BGAN Unit (SBU) and the 5016A/5016A-THD High Power Amplifier, Low Noise Amplifier, Diplexer (HLD).

The 5040A/5040A-THD supports Inmarsat SwiftBroadband signals using QPSK and 16QAM. The SBU signals are combined and amplified for transmission by the 5016A/5016A-THD HLD. The AVIATOR 200/200D/300/300D/350/350D system provide one baseband communication channel capable of supporting simultaneous full-duplex of SwiftBroadband functionality. The System functions in the 1525 – 1559MHz receive band and 1626.5 – 1660.5MHz transmit band.

The Aviator 200/300/350 System is a mounted Aeronautical Communication System supporting simultaneous voice and data communication through Inmarsat BGAN satellite service.

The standard system components consist of the following Items:

- SBU (Satellite Broadband Unit) TT-5040A or TT-5040A-THD
- HLD (High Power Amplifier, Diplexer and Low Noise Amplifier) TT-5016A or TT-5016A-THD
- LGA (Low Gain Antenna) e.g. TT-3002A (Aviator 200) or
- IGA (Intermediate Gain Antenna) e.g. TT-5006A-PMA (Aviator 300) or
- HGA (High Gain Antenna) e.g. TT-5007A-THR (Aviator 350)
- Optional (2-wire Handset, IRS/AHRS, Wireless Handset, Fax, ISDN Modem, Dialer)

The interconnection between the transceiver and other sub-systems illustrated in Figure 1:

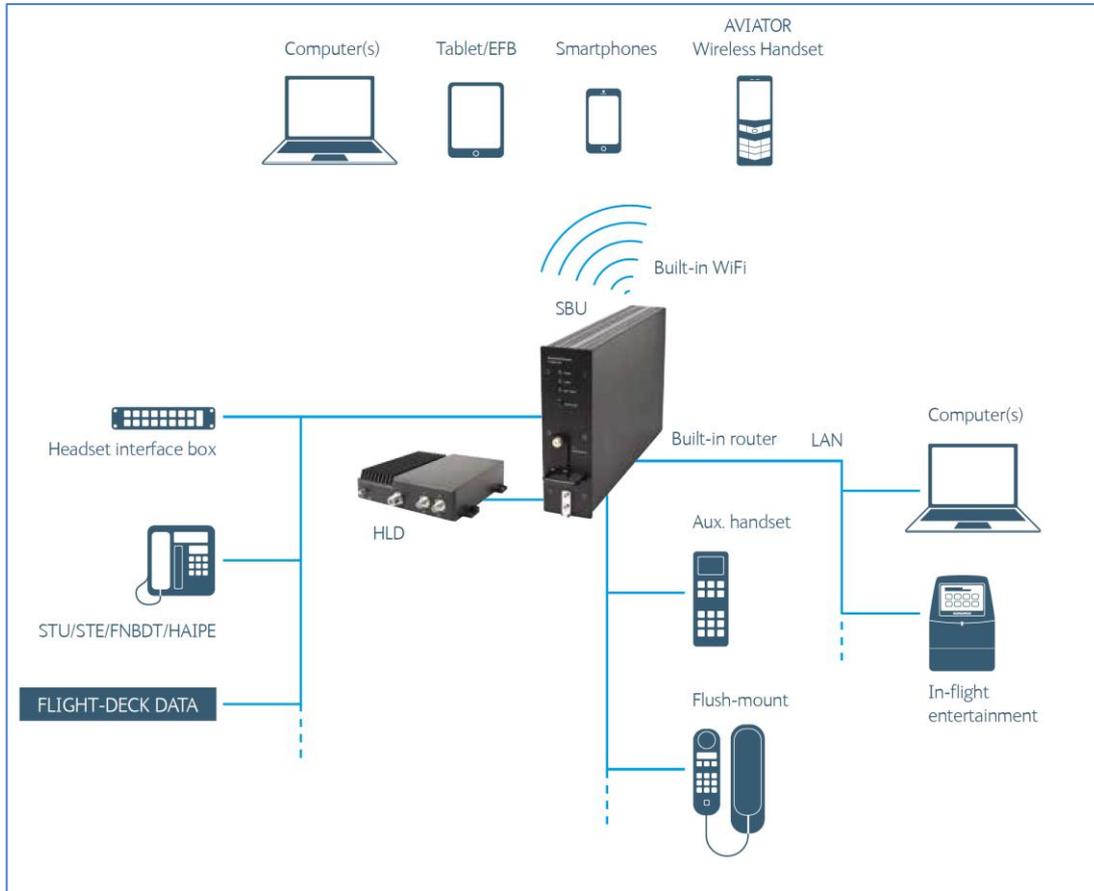


Figure 1: Aviator 200/300/350 system

2) Manufacturer's Identification

The Thrane & Thane A/S Trading as Cobham SATCOM model identification and the FCC Identifier for the AVIATOR 200/200D/300/300D/350/350D are presented in Table 1. For reference, the supported Inmarsat services are included.

Equipment Identification			Inmarsat Services (Swiftbroadband)				
Model	FCC ID (Pending)	IC ID (Canadian)	Standard IP background	IP streaming classes	Circuit-switched standard voice	ISDN service or 3.1 kHz audio (Premium voice)	Multi-voice (Number of voice calls)
Aviator 200/200D	ROJ-AVIATOR	6200B-AVIATOR	Up to 200 kbps	8/16 kbps	Yes	No	1+1 (best effort quality)
Aviator 300/300D	ROJ-AVIATOR	6200B-AVIATOR	Up to 332 kbps	8/16/32/64/128 kbps	Yes	Elevation > 45°	1+Up to 8 (best effort quality)
Aviator 350/350D	ROJ-AVIATOR	6200B-AVIATOR	Up to 432 kbps	8/16/32/64/128 kbps/X-Stream	Yes	Yes	1+Up to 8 (best effort quality)

Table 1: Manufacturer's Identification

3) Antenna Characteristics

AVIATOR 200/200D/300/300D/350/350D equipment is designed to operate with Inmarsat approved Satcom aeronautical antenna systems.

These antennas meet the requirements of ARINC Characteristics 741 and/or ARINC Characteristics 781, and RTCA/DO-210

4) Rated Output Power (EIRP)

Type	RF Power EIRP [dBW]
Aviator 200	11.4dBW +3,5 /-1,5dB
Aviator 300	15.1dBW +3,5 /-2,0dB
Aviator 350	20.0dBW +2.0 /-3.5dB

5) Emission Types and Characteristics

The AVIATOR 200/200D/300/300D/350/350D equipment emission types and characteristics are summarized in Table 2.

Inmarsat Service	Data Rate (kbps)	Symbol Rate ksym/s	Modulation Type	Signal States (S)	Necessary Bandwidth (kHz)	FCC Designator
SwiftBroadband	33.6	16.8	QPSK	4	25.0	25K0G7W
SwiftBroadband	67.2	33.6	QPSK	4	50.0	50K0G7W
SwiftBroadband	134.4	67.2	QPSK	4	100	100KG7W
SwiftBroadband	302.4	151.2	QPSK	4	200	200KG7W
SwiftBroadband	134.4	33.6	16 QAM	16	50.0	50K0D7W
SwiftBroadband	268.8	67.2	16 QAM	16	100	100KD7W
SwiftBroadband	604.8	151.2	16 QAM	16	200	200KD7W

Table 2: Emission Types and Characteristics

6) Frequencies of Operation

1525 to 1559 MHz receiving
1626.5 to 1660.5 MHz transmitting

7) Receiver Characteristics

The receiving characteristics of the AVIATOR 200/200D/300/300D/350/350D equipment meet the applicable requirements of the Inmarsat System Definition Manuals (SDMs) and RTCA/DO-210.

If this information meets with your approval, Thrane & Thane A/S Trading as Cobham SATCOM 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,



Morten Becker Saul
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BGAN Research & Development

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