

FCC form 442 EXHIBIT 1.

Application is for operation of a two-way C-band data link system between a T-39 Sabreliner aircraft and a fixed ground station.

The Airborne Data Link transmitter is a 40 watt (CW) unit driving either a 5.5 dB gain omni antenna, or a 17 dB gain steerable antenna. The omni antenna beam pattern is 24 deg in elevation by 360 deg in azimuth. The steerable antenna beam is 45 deg in elevation by 25 deg in azimuth.

Any transmitter center frequency from 4775 MHz to 4999 MHz, in 1.0 MHz steps, can be selected for the airborne system.

Emission Designators: 21M6F9W

Measured emission -3dB bandwidth is 3.0 MHz.

Maximum modulation frequency: Main Carrier = 5.4 MHz., Subcarrier = 15 KHz.

Deviation Ratio (main carrier) = 0.952, (subcarrier) = 5.0

Design includes a 5 pole band pass filter in the diplexor.

Spurious output level is -70 dB.

The Ground Data Link transmitter is a 10 watt (CW) unit driving a 29 dB gain directional dish array. The steerable antenna beam is 7.2 deg in elevation by 3.6 deg in azimuth.

The ground based transmitter can be configured for any center frequency between 4400 MHz and 4625 MHz, in 1.0 MHz steps.

Emission Designators: 323KF1D

Calculated emission -3dB bandwidth is 74.4 KHz.

Maximum (FSK) bit rate is 19.2 KHz.

Maximum modulation frequency is 35.2 KHz

Deviation Ratio = 3.6

Design includes a 5 pole band pass filter in the diplexor.

Spurious output level is -70 dB.

FCC form 442 EXHIBIT 2.

Research and Development of radar data collection, processing, and control systems hardware by Lockheed Martin Management & Data Systems - Reconnaissance Systems requires the addition of a 2-way data link between an existing Experimental rated T-39 Sabreliner radar test aircraft, and a fixed location ground station, located at the Lockheed Martin facility (see form 442, section 5).

The aircraft will operate within a 300 mile radius of the ground station.

Average operating time will be two hours, and occur at any time of the day or night. Flight frequency will range from 0 to 6 times per month.

A commercially available Video/Data Link system is being purchased from Broadcast Microwave Services Inc. (see form 442, section 13).

Except for the specific application, and as defined in form 442, the subject data link equipment is similar to that described in DOD form 1494, Frequency Allocation Application J/F 12/7315, dated 30 May, 97.