# KRFS Experimental License Request

## 1 Purpose of Operation

Raytheon Integrated Defense Systems (IDS) to KRFS Multi-Function RF System (Radar). This application is to demonstrate this system as a Unmanned Platform. This will be demonstrated in McKinney ,Texas and Fullerton, California

- File Number: 0480-EX-CN-2018
- Class of Station: FX
- Station Locations: FIXED
- Effective: 07/16/2018
- Expiration: 07/16/2018

Note: The KRFS is designed to operate over specific frequency ranges within the range of 15.71 to 17.71 GHz. Specific operating modes are confined to the specific bands as follows:

- 15.71 to 17.71 GHz Radar: C-RAM
- 15.71 to 17.71 GHz Missile Illumination

## 2 STA Explanation

As detailed in paragraph 1 above, Raytheon seeks this STA in order to allow testing and technical demonstrations of the KRFS System (Radar).

**3.** The modulation techniques per mode are listed in the table below.

| Mode | Modulation | PRF | Pulsewidth | Modulation Rate |
|---|---|---|---|---|
| Radar : C-RAM | Pulse. Bi-Phase or Polyphase | 5 KHz – 200 KHz | 0.2 – 40.0 usec | 20 MHz |
| Missile Illumination<br>(Transmit only) | FSK<br>Fc ± 1.44 MHz (Mark)<br>Fc ± 0.8 MHz (Space)<br>Fc ± 1.12 MHz (Clear) | 33Hz | 2.5 ms | **160 KHz** |

The peak and mean power per mode are listed in the table below. Because the antenna is an AESA, the peak power levels are specified at the external face of the radome but do not include the antenna gain.

| Mode | Peak Power (Block 19b) | MaxTX Duty Cycle | Mean Power (Block 19a) |
|---|---|---|---|
| Radar: C-RAM | 5760 Watts | 20% | 1152 Watts |
| Missile Illumination | 1440 Watts | 100% | 1440 Watts |

## 4. Stop Buzzer

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