



JOHNS HOPKINS
APPLIED PHYSICS LABORATORY

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Persistent Decoy Payload Information for FCC

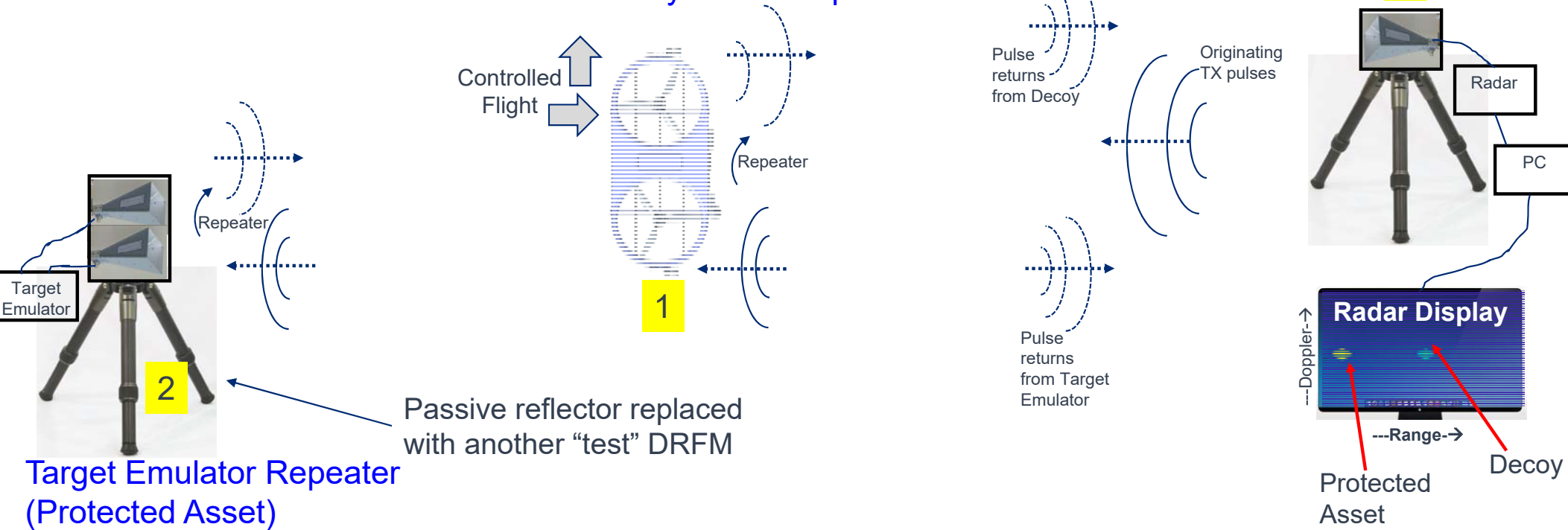
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Test Description

- 3 Systems, all with similar radiation characteristics from FCC perspective
 - **1.** In Flight Persistent Decoy DRFM Payload (behaves as microwave repeater, with modulated responses)
 - **2.** Test Target: Ship/Target Emulator (behaves as a microwave repeater, with modulated responses)
 - **3.** Radar (transmits pulses and receives responses, to produce interactive Range/Doppler Plots)

Persistent Decoy Drone Repeater



Radar Electronic Warfare Test Event

- Purpose
 - Evaluate two Electronic Decoy's, one on a flying platform, one ground mounted response to a radar test signal within the confines of a physically "netted" 300x100x50 ft outside caged area (see pictures next slide)
- Method
 - Aim the radar at the two decoys inside the netted cage. The decoys will repeat the waveform, with various delays and Doppler shift. All antennas are aimed horizontally within the netted test range.
- Operational Area
 - 300 feet radius 38°58'27.23"N, 76°55'16.94"W near College Park, MD, on U of MD campus
- Decoys (2) and Radar (1) Hardware Description
 - Prototypes manufactured by JHU/APL
 - 10W TX Power, 400W ERP, Peak
 - RF Freqs: 8.3, 9.6, 11, 12.5, 15.5 and 17 GHz
 - Emission: 50M0Q3N, LFM
 - PRF: 100-200kHz
 - Antenna: 15 dBi, 31.2°/25.9° H/V Beamwidth
- FCC STA Request
 - Test window: 8/1/20 to 10/31/20
 - 3 test periods, 5 days each, 6 hrs/day



UMD Netted Facility

- The Drone associated with this STA request will be flown in the University of Maryland Fearless Flight Facility (F3) near the College Park Airport (CGS)
- Description: Outdoor netted flight laboratory for testing UAS. 300x100x50ft (LxWxH).
- Features of use to support STA test
 - Do not need to adhere to FAA Part 107 UAS limitations.
 - Safe facility to test new UAS performance capabilities
 - Able to receive GPS satellites



Ground View



Satellite View



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