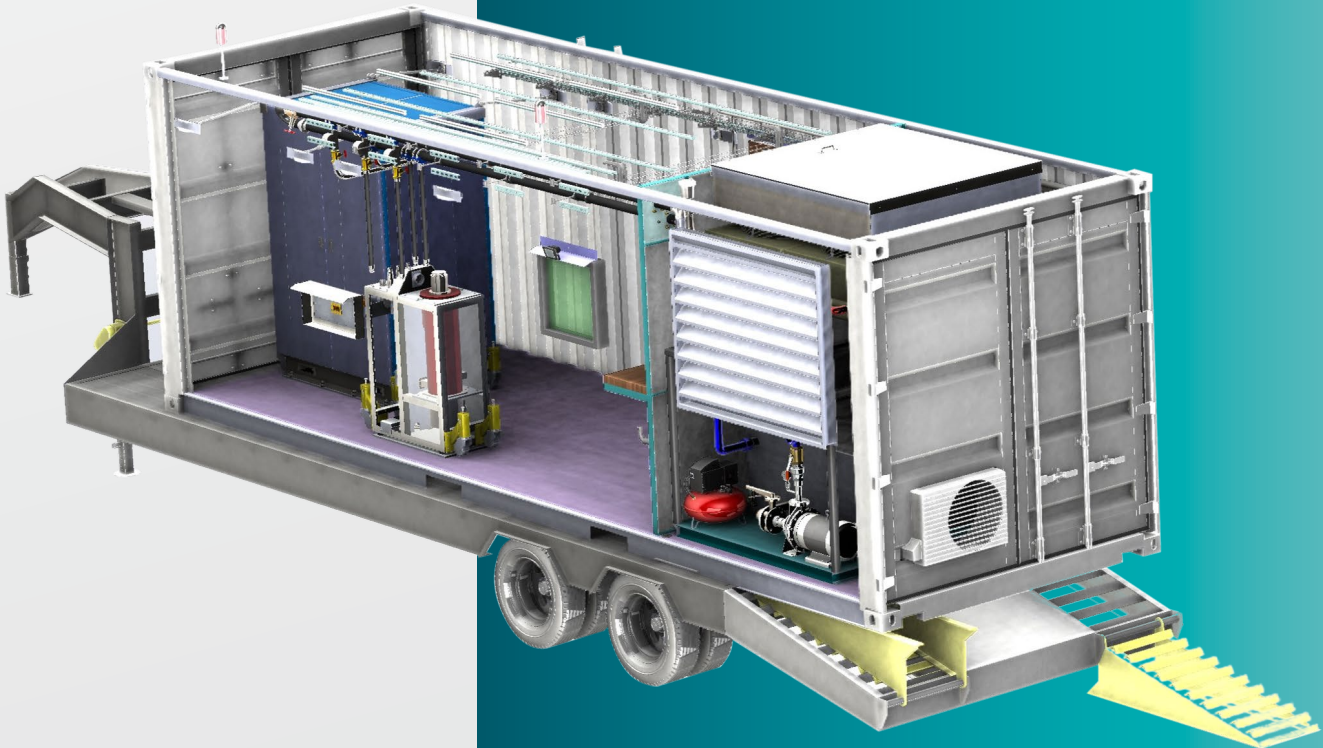




# HAPP

High Average  
Power Pulse

AGILE HIGH DUTY CYCLE RF TEST SYSTEM FOR OUTDOOR RANGE APPLICATIONS.



CREATING SOLUTIONS THAT MATTER



# HAPP | High Average Power Pulse

AGILE HIGH DUTY CYCLE RF TEST SYSTEM FOR OUTDOOR RANGE APPLICATIONS.

## KEY FEATURES

- 15% duty cycle
- Plug and Play operation
- >20 kW average power
- Frequency tunable from 3.1 to 3.5 GHz
- Automated control system tailored for test operator
- Integrated fail-safes and protection systems
- Expandable: Cooling, prime power, and control system designed for later addition of a second source and modulator

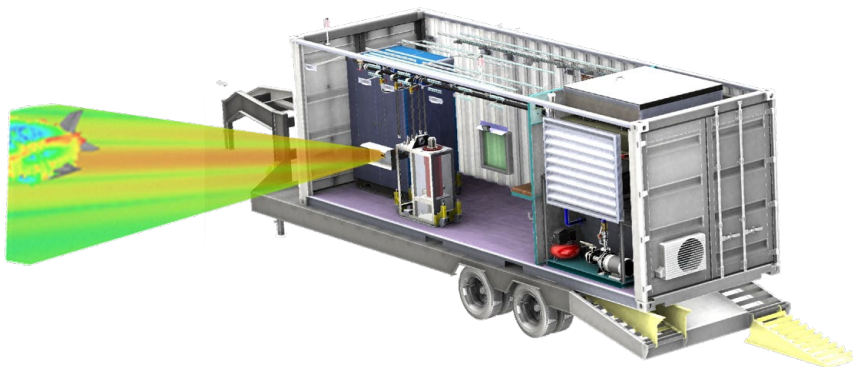
## SYSTEM USE CASES

HAPP range is designed to provide a high average power/high duty cycle microwaves for MIL-STD-464 testing as well as effects testing. Integrated into a climate controlled transportable shipping container, HAPP range is designed for operation at test ranges with the capability to operate year-round due to heating and oversized cooling capabilities. It is self-contained and operates on 480 Vac shorepower.

HAPP is a set of High Average Power Pulse S-Band Surrogate Sources (HAPP SBSS) designed to provide needed Test and Evaluation (T&E) capability. These sources include a 170 kW 15% duty cycle traveling wave tube range source. The range source is integrated into a portable shipping container and is an agile high-duty cycle test asset. With appreciation of evolving needs, the HAPP range source is designed for future enhancement in both duty cycle and peak power via an additional source and novel power combiner.

## KEY PERFORMANCE SPECIFICATIONS

SPECIFICATIONS	VALUE
HPM Frequency Range	S-Band, with 10% tunability
HPM Peak Power	150 kW
Duty Cycle	15%
Pulse Width	>2 kHz
Pulse Repetition Rate	10 – 500 us
Burst Duration	10 s
Cool Down Time Between Bursts	5 mins
Integration Platform	25 ft shipping container
Operating Temperature Range	0 to 40 deg C
Warm Up Time	-30 mins
Shore Power Required	480 VAC 3ph/240A



## CONTACT INFORMATION

J. Mark DelGrande, Ph.D.  
[j.mark.delgrande@verusresearch.net](mailto:j.mark.delgrande@verusresearch.net)