Outdoor transmitter information: What is the height of the transmitter? What structure will it be installed on? What is the overall height of the structure?	The test stations will likely be on a tripod so they can be moved. The testing is only temporary. The height probably will not exceed 5 feet high from the rooftop. The installation will be on the roof of the building. The building is 151 feet high.
Location of experiment: Indoor? Outdoor? Mobile, fixed? Radius of Operations? If outdoor, what features of the area might attenuate signals?	Outdoor, fixed The test stations will be operating about 50 top 100 feet apart on the rooftop for the terrestrial testing. We have buildings all about the same height close by but they would not be within the link.
Spectrum and transmission characteristics questions:	**Information:**
What spectrum is requested?	30 to 31 GHz
Will the spectrum use be pulsed or CW?	both
Will the frequencies be stepped through, swept through, or used constantly?	both
How much time will the testing be conducted? (e.g., all day, workdays, or only 2 hours every two weeks?)	When testing happens it will be for the duration of the workday, but typically transmission is only for a few hours during the day, and can last for up to 3 weeks. Estimate 20 hours per month.
What is the proposed power level: Output power, in watts? ERP, in watts:	For the Simulator: Limited to +10dBm transmit power using attenuators (or 0.01Watts) EIRP is 1W For the Terminal with antenna and 5W BUC: Power is limited through a 60dB attenuator to -23dBm transmit power. EIRP with antenna max gain of 46.6dBi is 0.22W
Antenna gain (in dBi), if any?	The antenna used for the SES is a directional horn with 20dB typ gain max. Standard Gain Horns Series 240 Model No 20240-20 The parabolic dishes will be three sizes of 65, 75, and 85cm with max gain limited to 46.5dBi and half power beam width 1.1 degrees.
Can the program tolerate any spectrum carve-outs?	No
What is the duty cycle?	For the initial handshake, this could be up to 100% I think, but then after that it's less.
Does this propose use of a directional antenna? If so,	Yes, we will use directional horn type antennas and SATCOM dishes.

What is the half power beamwidth? What is the orientation in the horizontal plane? What is the orientation in the vertical plane?	Half power BW for the parabolic dish is 1.1 degrees, the 3dB beam width for the horn is not known. The horizontal and vertical directions have 90 degrees isolation. The transmit for the simulator is on the vertical plane.
What is the emission designator(s)?	3M00K9W The VSAT transponders are 36MHz but they will operate at 3MHz or below: 3M00 The modulation is PCM, PSK/QAM, I don't know if you should use K or M. The nature of the signal is two or more channels carrying quantized digital info with a combo of digital or analog : 9 The type of information is data, video, internet traffic: W
Stop Buzzer POC?	**Suzanne Weber, cell phone: 412-498-2524**

General Purpose of Testing:

(Please provide some general explanation of what the radio/radio transmissions will be used for. This information will help us craft the required exhibit for the application.)

Our CONOP is to test using KA band VSAT dishes with a simulator with transmission between 30 and 31 GHz that were developed by Tampa Microwave. We want to set them up on the roof and test various scenarios.

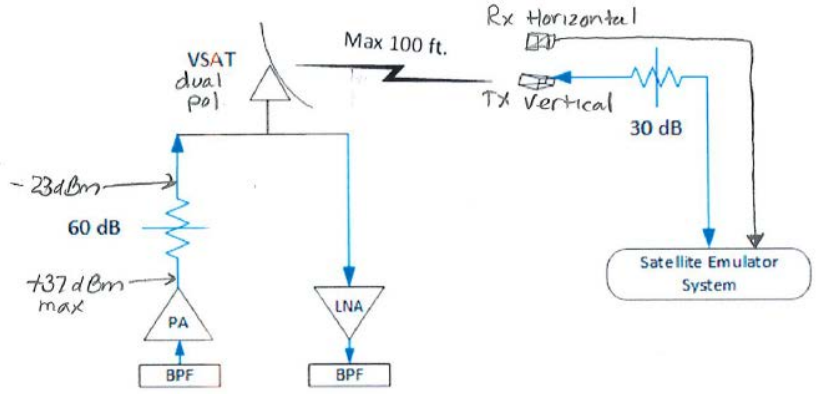
Test 1:
In this scenario, two standard horn antennas are connected to a Ka VSAT emulator. One antenna is vertical, the other is horizontal. We will transmit on the vertical plane at no greater than 1 Watt EIRP from there to about 50-100 feet away to a bidirectional VSAT terminal. Dynamic range measurements would be taken using three different size VSAT dishes. The dish diameters will be 65, 75, and 85cm. The VSAT terminal will transmit with no more than 0.22W EIRP back to the simulator. This is being done to verify that operators can reassemble the antennas with accuracy. Careful consideration is taken to make sure the signal power and direction are minimal using built in and external attenuators. See Drawing.

Test 2:
In this scenario, a VSAT terminal will be used to transmit/receive to a live satellite in the Ka band using an existing satellite commercial lease (non experimental). This link will be with a 5W BUC 46.5dBi gain, with 1.1 degrees half power beam width. This should not need an experimental permit as it is covered by the commercial lease through the SatComm provider.

Test 1 terrestrial test on rooftop

Transmit Power = 5W (BUC) / +37dBm
Antenna Gain = 46.5 dBi (44668)
3dB Beamwidth = 1.1 degrees

Transmit Power = 10 mW / +10dBm
Antenna Gain = 20 dBi (100)
3dB Beamwidth = unknown



Test 2 with commercial license / leased BW