

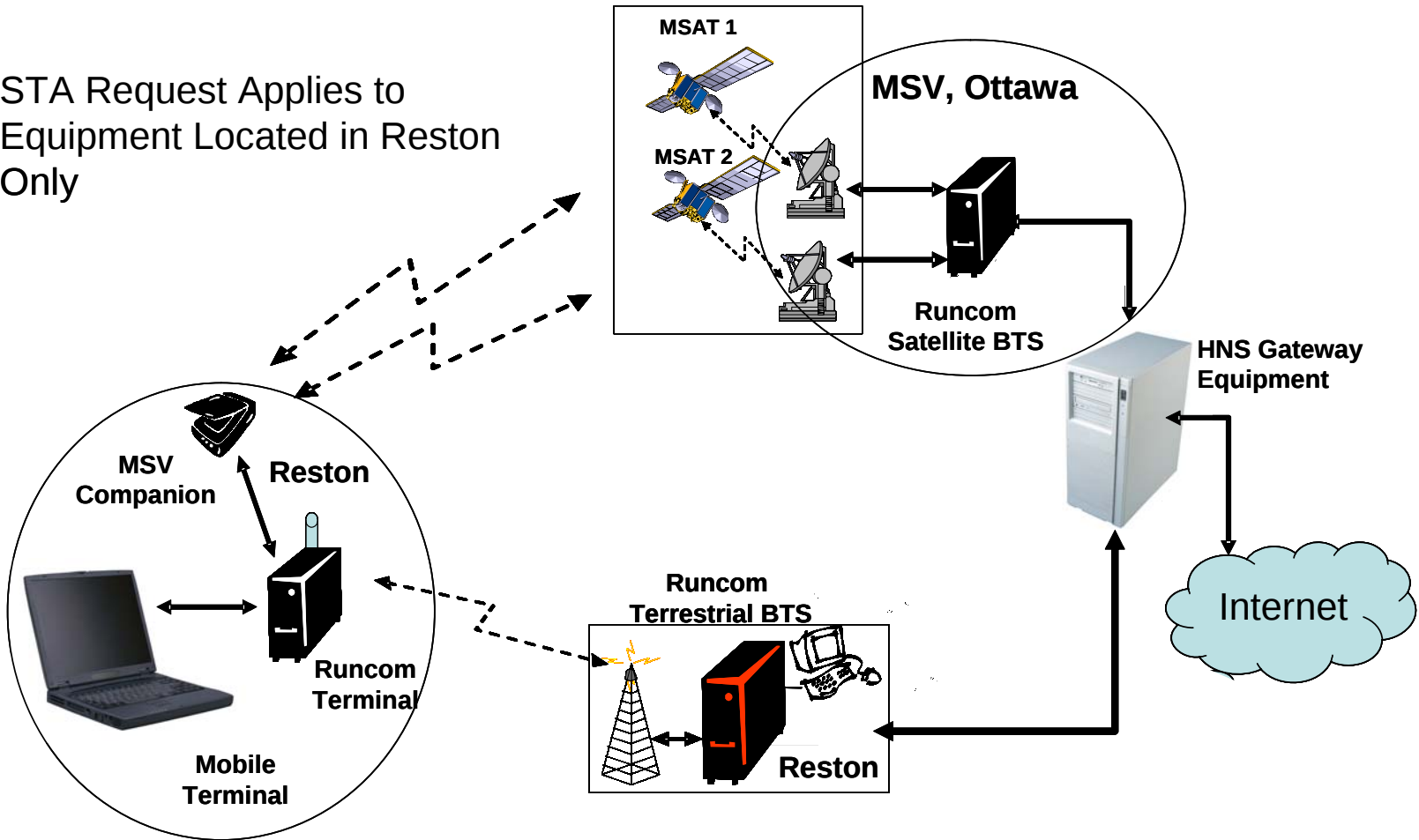
MSV Experimental STA

Introduction

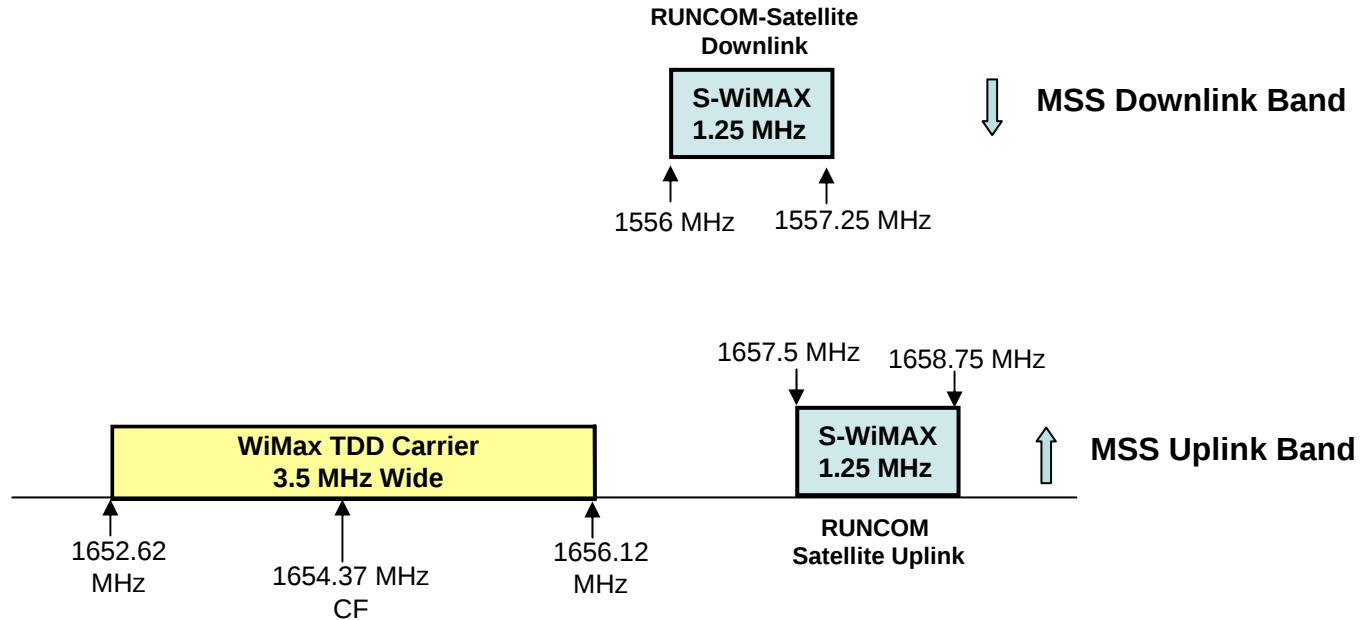
- MSV is developing an mobile satellite service (MSS) integrated with an ancillary terrestrial component (ATC).
- *Goal of Experiment*
 - To test the WiMax protocol as adapted for use over satellite, and to test the capability for a call in-progress over the ATC to be handed-off to a satellite path as the MT travels out of range of the ATC.
- *Need for STA*
 - WiMax air interface over satellite and terrestrial segments
 - TDD operation of one (1) BTS and six (6) MTs in the 1.6 GHz MSS band within a 10 km radius in Reston, Virginia

Network Overview

STA Request Applies to
Equipment Located in Reston
Only



Test Frequency Plan



Interference Analysis

Satellite Paths

- **Satellite downlink transmissions**

		MSAT QPSK	WiMax
Satellite EIRP	dBW	28	45
Assigned Bandwidth	kHz	6	1250
EIRP Density	dBW/kHz	20.2	14.0

- Power Density from existing authorized satellite carriers is greater than from satellite WiMax carriers

- **MT transmissions toward satellite**

- Existing MT Transmit EIRP is 12-16 dBW in a 6 kHz bandwidth
- Text WiMax MT EIRP will be only -0.9 dBW in a 1.25 MHz bandwidth
- Power Density from existing MT is greater than from WiMax MT in satellite mode

Interference Analysis

Terrestrial Paths

- **MT transmissions toward BTS**
 - Existing MT Transmit EIRP is 12-16 dBW in a 6 kHz bandwidth
 - Test WiMax MT EIRP will be only -10 dBW in a 3.5 MHz bandwidth
 - Power Density from existing MT is greater than from WiMax MT in terrestrial mode
- **BTS transmissions toward MT**
 - Existing MT Transmit EIRP is 12-16 dBW in a 6 kHz bandwidth
 - Test WiMax BTS EIRP will be only 11 dBW in a 3.5 MHz bandwidth
 - Power Density from existing MT is greater than from test WiMax BTS
- **Conclusion** – Interference potential of the proposed test equipment is below that of currently authorized and operating equipment