



BLUE DANUBE™

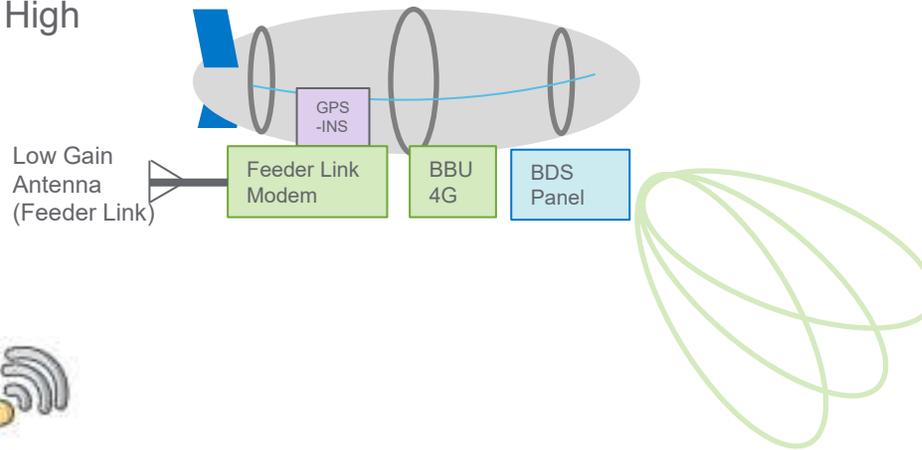
Blue Danube Systems High Altitude Platform Experimental Testing

February 25, 2020



High Altitude Rate Range Test

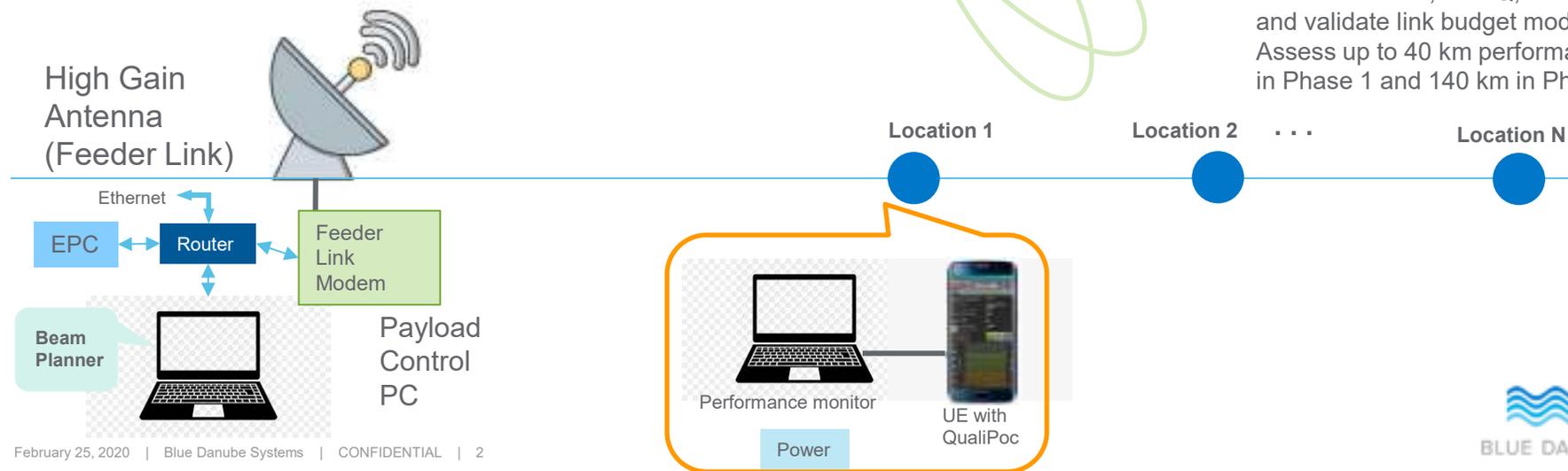
Semi-Stationary High Altitude Platform (HAP) at 20km



Output: UL/DL Data Rate at multiple(min.7) locations

Use: Confirm propagation and link budget model

Methodology: Measure UL/DL data rate achieved at multiple locations (min. 7) with up to 3 users on the same channel. Populate Data Rate Range table. Measure RSRP, RSRQ, SNR etc. and validate link budget model. Assess up to 40 km performance in Phase 1 and 140 km in Phase 2

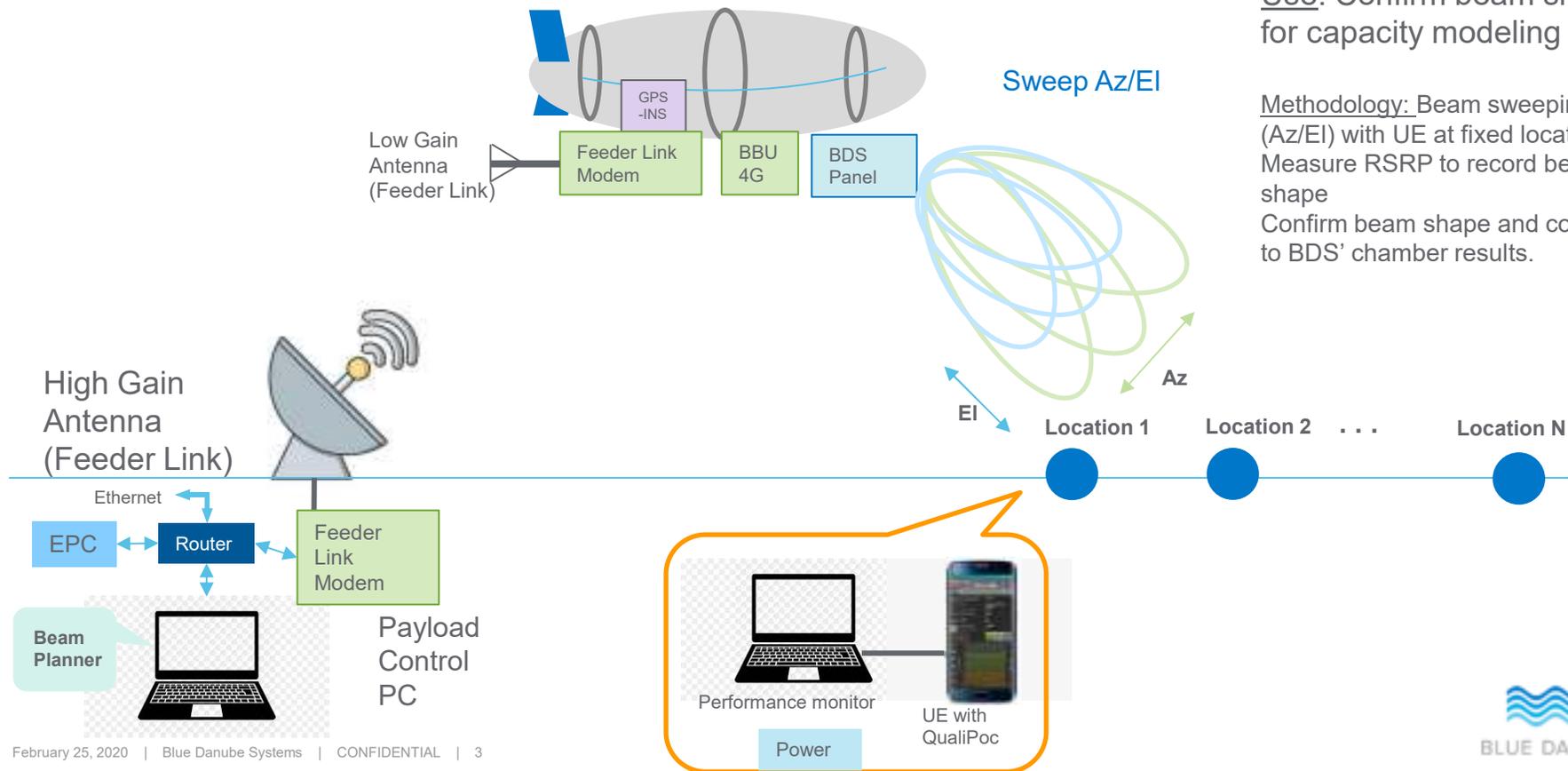


High Altitude Beam Pattern Test

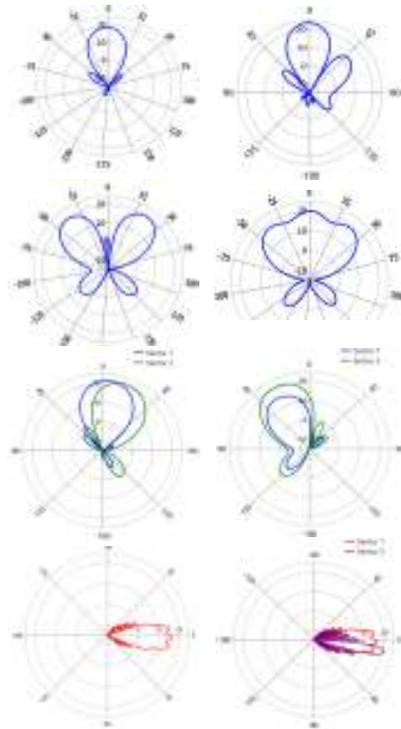
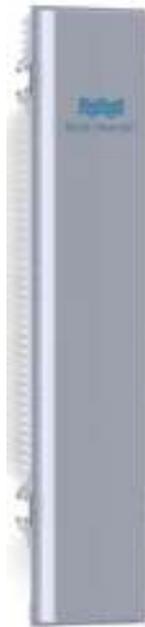
Output: Beam Shape data

Use: Confirm beam shape for capacity modeling

Methodology: Beam sweeping (Az/EI) with UE at fixed location. Measure RSRP to record beam shape
Confirm beam shape and compare to BDS' chamber results.



Experimental BeamCraft™ 500 – Product Specs



Illustrative Beam Patterns

Key Features

8 Elements for Phase 1, 96 Element Antenna Array for phase 2.
(4 columns x 12 rows x 2 polarization)

+45° / -45° Polarization

Upto 160W, dynamically allocated

FDD AWS or PCS

23 dBi Antenna Gain (Max)

4 Beams (Tx/Rx)

3dB Horizontal Beamwidth
24° (min) : 90° (max)

3dB Vertical Beamwidth
5° (min) : 21° (max)

+/- 30° Horizontal Beam Steer Range

+/- 10° Vertical Beam Steer Range

72"(L) x 14"(W) x 10"(D)



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