

Directional Antenna Information and Modulating Signal Description

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File #1245-EX-ST-2021

DISTRIBUTION STATEMENTS:

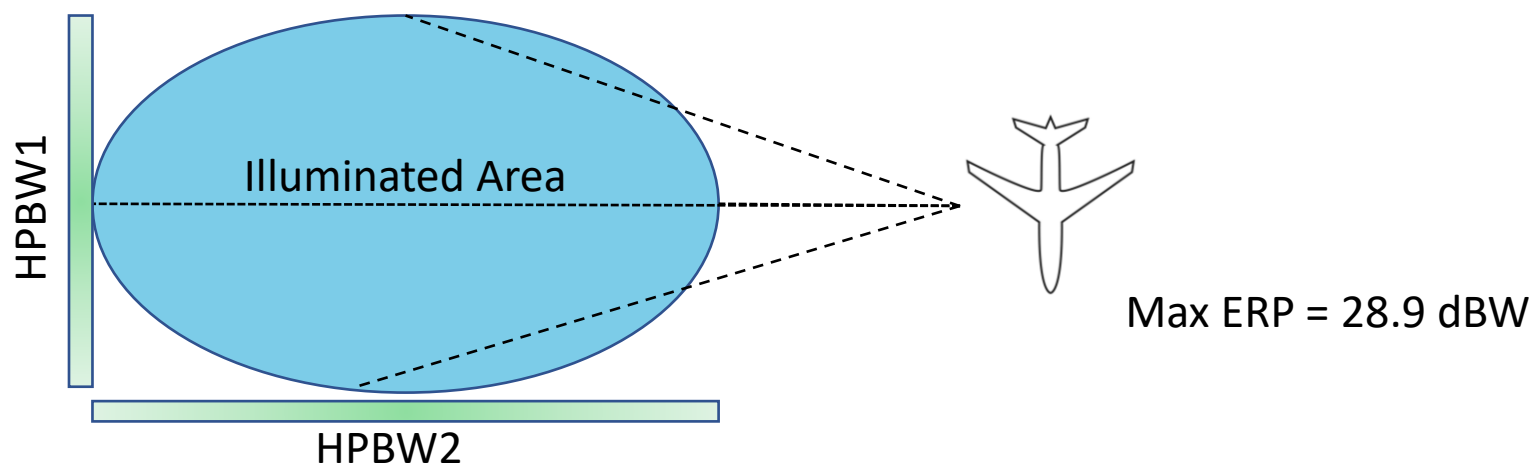
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Top Down View

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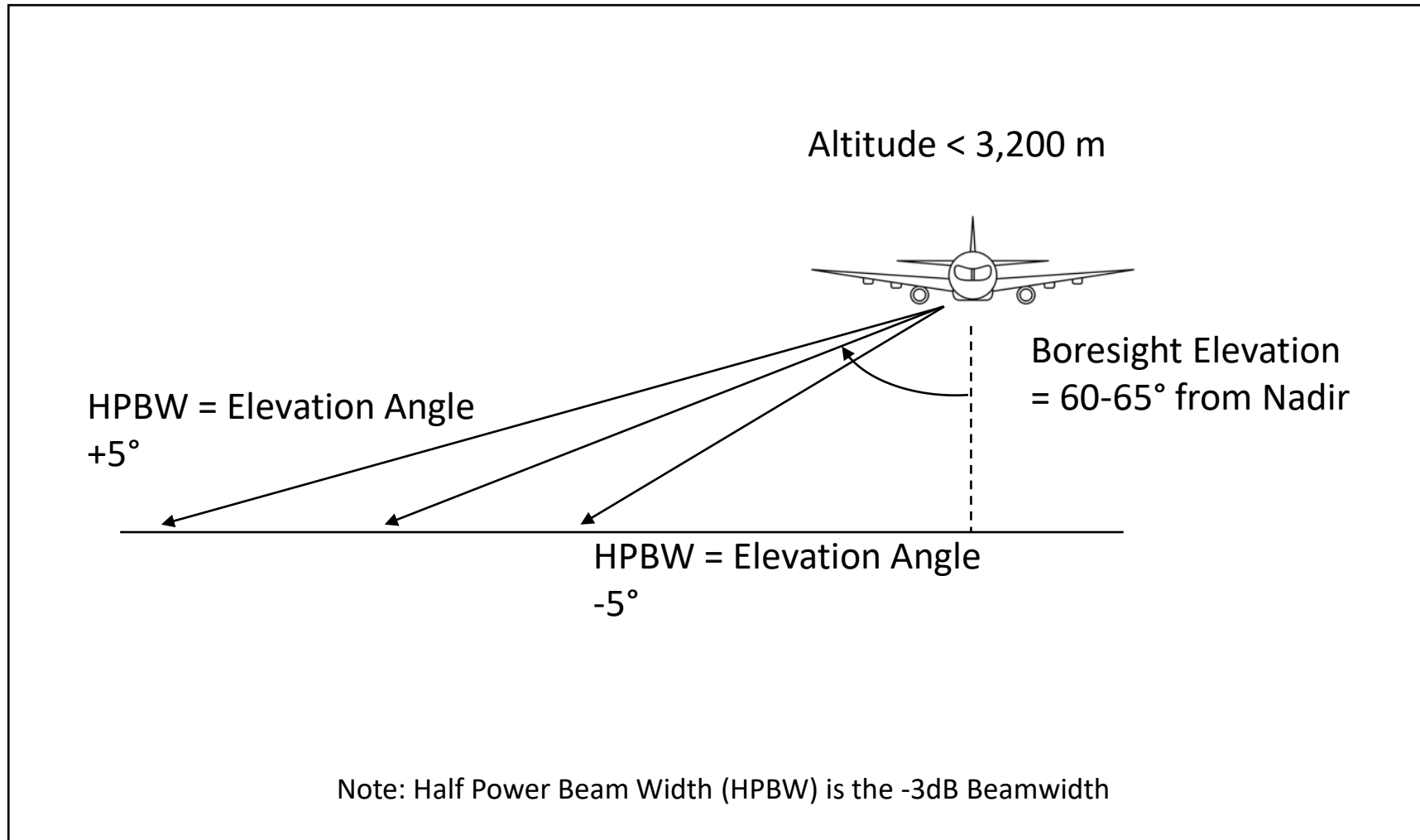


HPBW1 = $\pm 5^\circ$ Azimuth Angle

HPBW2 = $\pm 5^\circ$ Range Angle

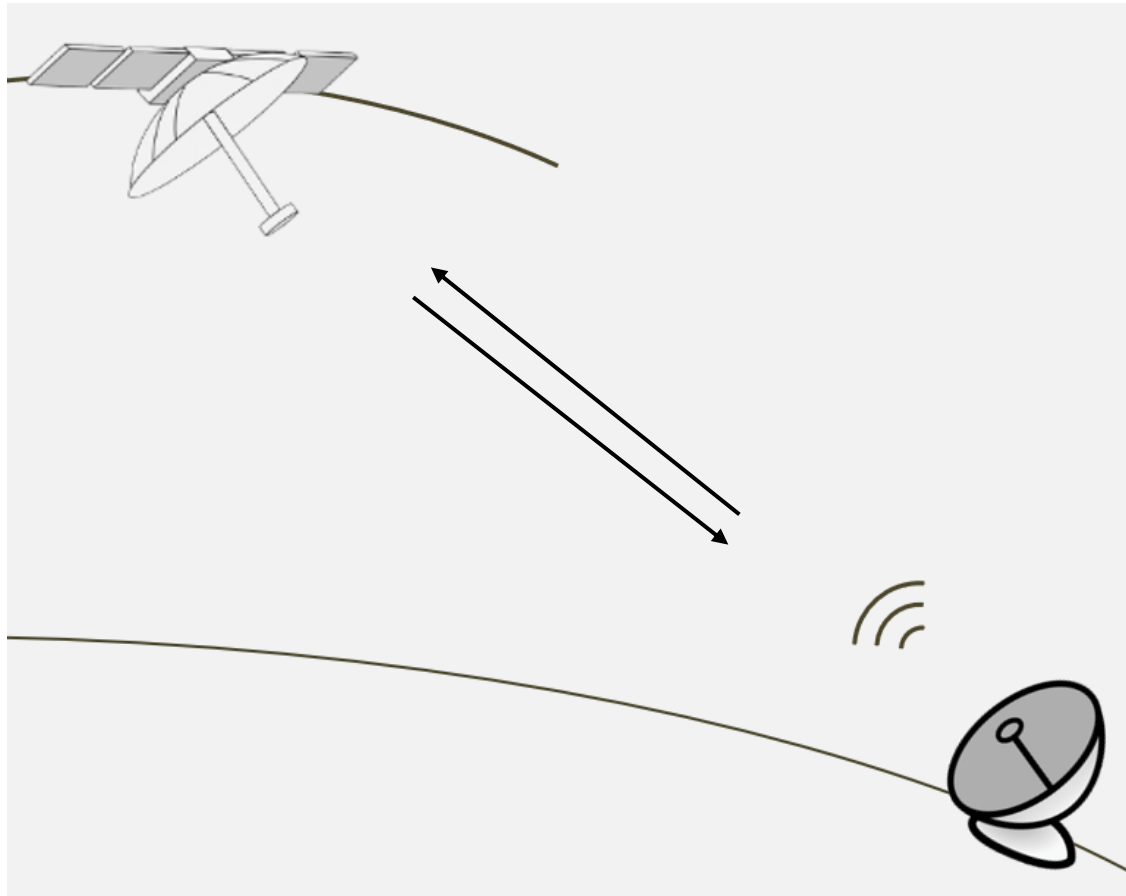
Note: Half Power Beam Width (HPBW) is the -3dB Beamwidth

Side View



X Band Communications

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- 30 - 90° angle of transmission from ground antenna
- Transmissions lasting no longer than 5 seconds
- No more than five transmissions in a ten minute period
- 2-3 communication events over the course of requested period

Modulating Signal Description

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- **Modulation**

- Linear Frequency Up-chirp or Down-chirp of carrier

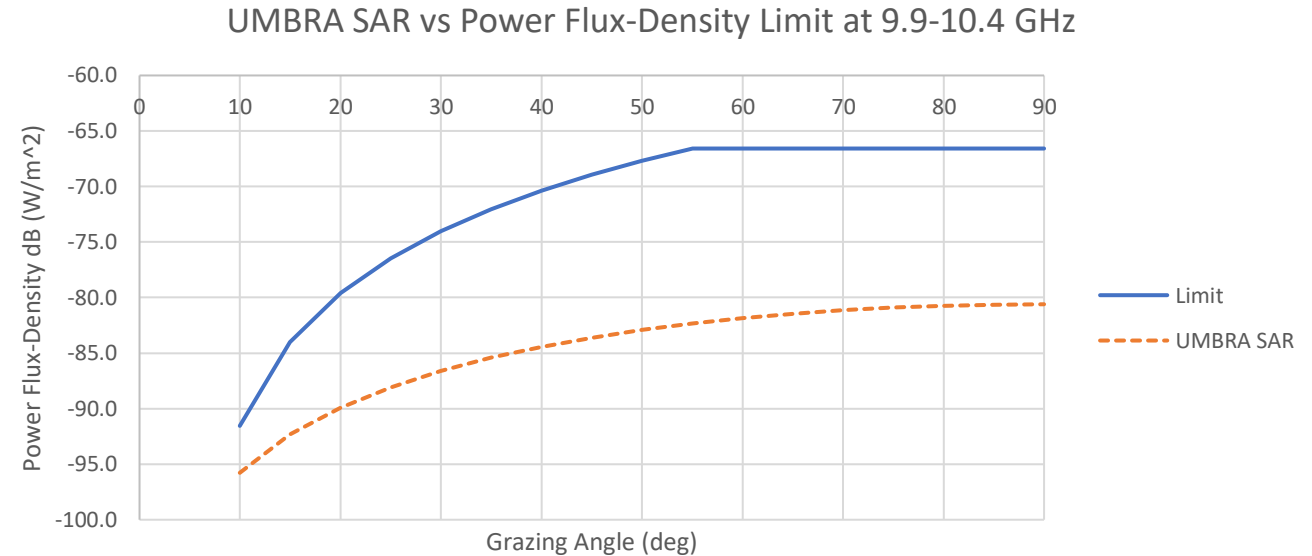
- **Modulated Signal Bandwidth = 600 MHz baseline (1200 MHz max)**

- **PRF = 2,000 to 12,000 Hz**

- **Duty Cycle < 30%**

- **Power Flux Density**

- Set to well below ITU limits for the SAR Band*
- This closely mimics our approved operation per File # 0424-EX-CN-2020



*Reference Table 12-4: https://www.itu.int/dms_pub/itu-r/opb/act/R-ACT-WRC.12-2015-PDF-E.pdf