Fig 1: Recommendations

FCC Recommendation
00% of the side lobes are allowed to exceed from 1° to 7°.
10% of the side lobes are allowed to exceed by a maximum of 3 dB, from 7° to 180°.

$G(\upsilon) = 29\text{-}25 \log(\upsilon)$ dBi, for $1.25° < \upsilon < 7.0°$
$G(\upsilon) = 8.0$ dBi, for $7.0° < \upsilon < 9.2°$
$G(\upsilon) = 32\text{-}25 \log(\upsilon)$ dBi, for $9.2° < \upsilon < 48°$
$G(\upsilon) = -10$ dBi, for $48° < \upsilon < 180°$

ITU Recommendation
10% of the side lobes are allowed to exceed the curve.

$G(\upsilon) = 29\text{-}25 \log(\upsilon)$ dBi, for $\text{Max}(1, 100\lambda/D) < \upsilon < 20°$
$G(\upsilon) = -3.5$ dBi, for $20° < \upsilon < 26.3°$
$G(\upsilon) = 32\text{-}25 \log(\upsilon)$ dBi, for $26.3° < \upsilon < 48°$
$G(\upsilon) = -10$ dBi, for $48° < \upsilon < 180°$

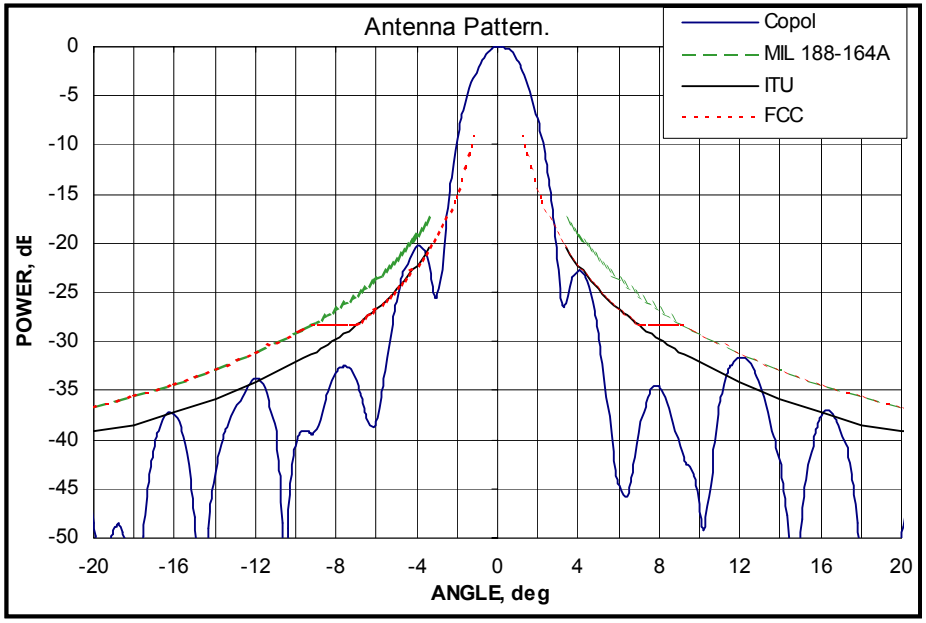
MIL STD 188-164A Recommendation
10% of the side lobe are allowed to exceed the curve.

<u>For $D/\lambda > 50$</u>
$G(\upsilon) = 29\text{-}25 \log(\upsilon)$ dBi, for $\text{Max}(1, 100\lambda/D) < \upsilon < 20°$
$G(\upsilon) = -3.5$ dBi, for $20° < \upsilon < 26.3°$
$G(\upsilon) = 32\text{-}25 \log(\upsilon)$ dBi, for $26.3° < \upsilon < 48°$
$G(\upsilon) = -10$ dBi, for $48° < \upsilon < 180°$

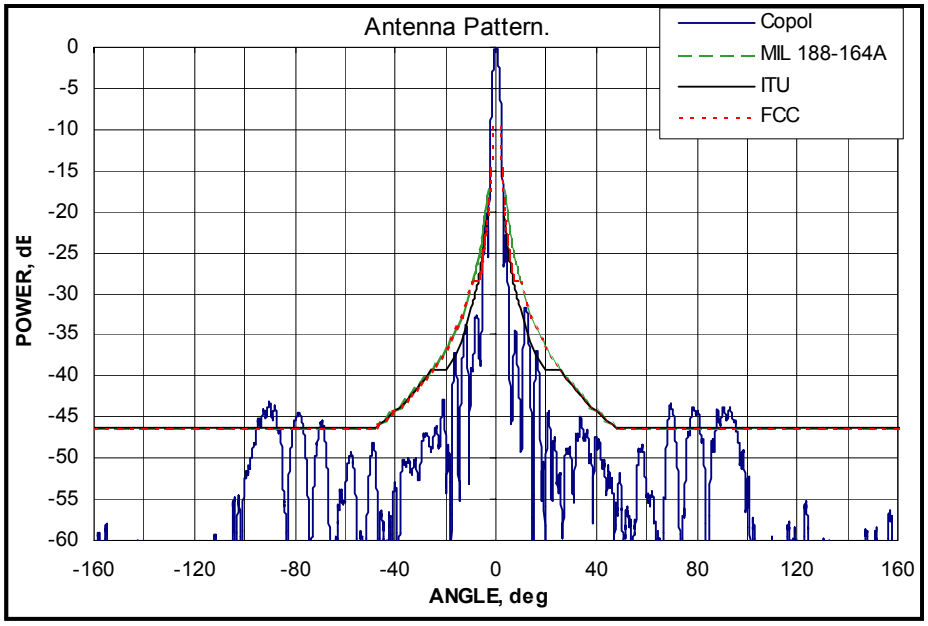
<u>For $D/\lambda < 50$</u>
$G(\upsilon) = 32\text{-}25 \log(\upsilon)$ dBi, for $\text{Max}(1, 100\lambda/D) < \upsilon < 48°$
$G(\upsilon) = -10$ dBi, for $48° < \upsilon < 180°$

Fig 2: 14.00 GHz Patterns. First Test - With Radome

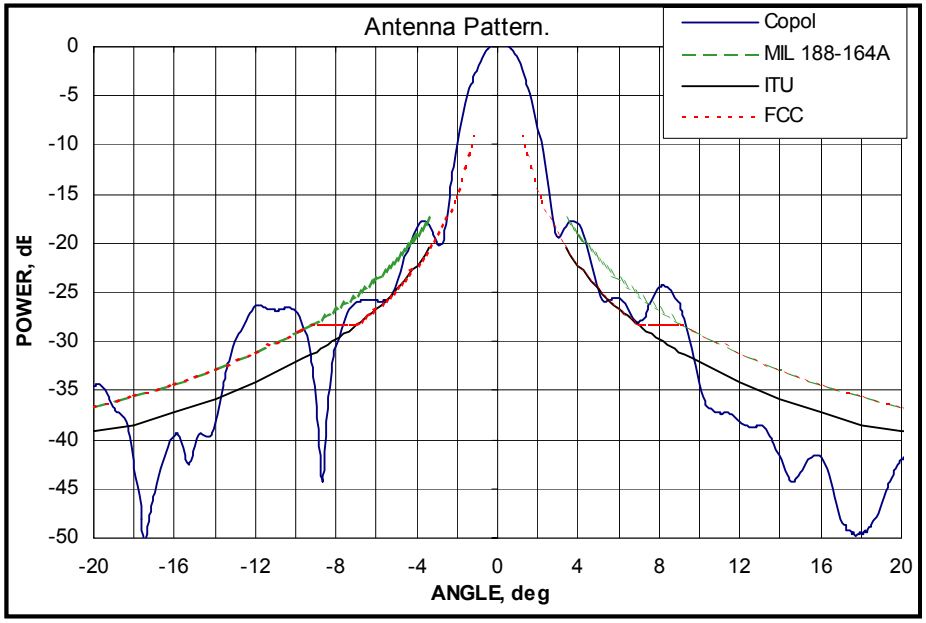
Azimuth ±20° Cut.



Azimuth ±180° Cut. (9% over curve)



Elevation ±20° Cut



Elevation ±180° Cut. (18% over curve)

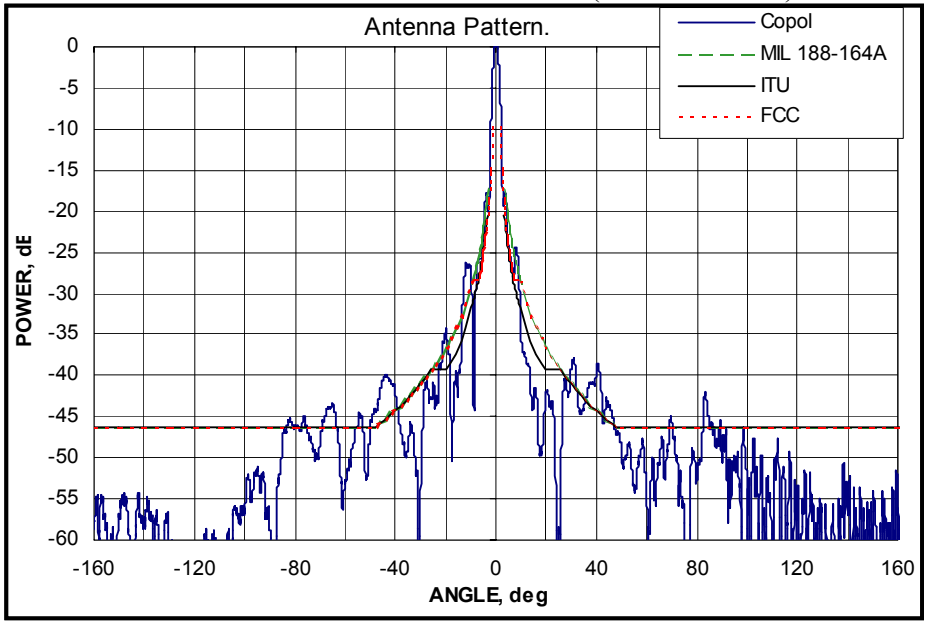
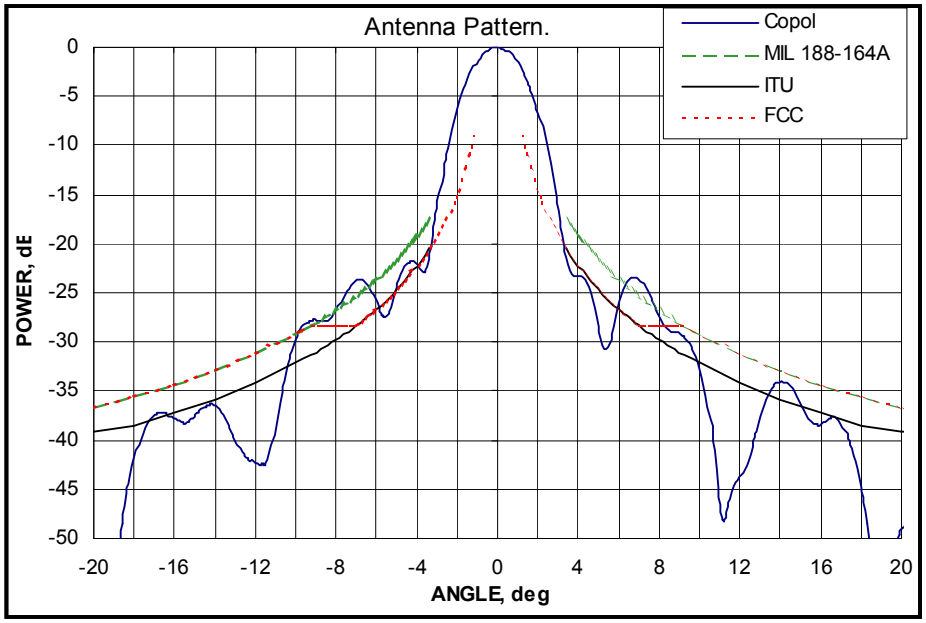
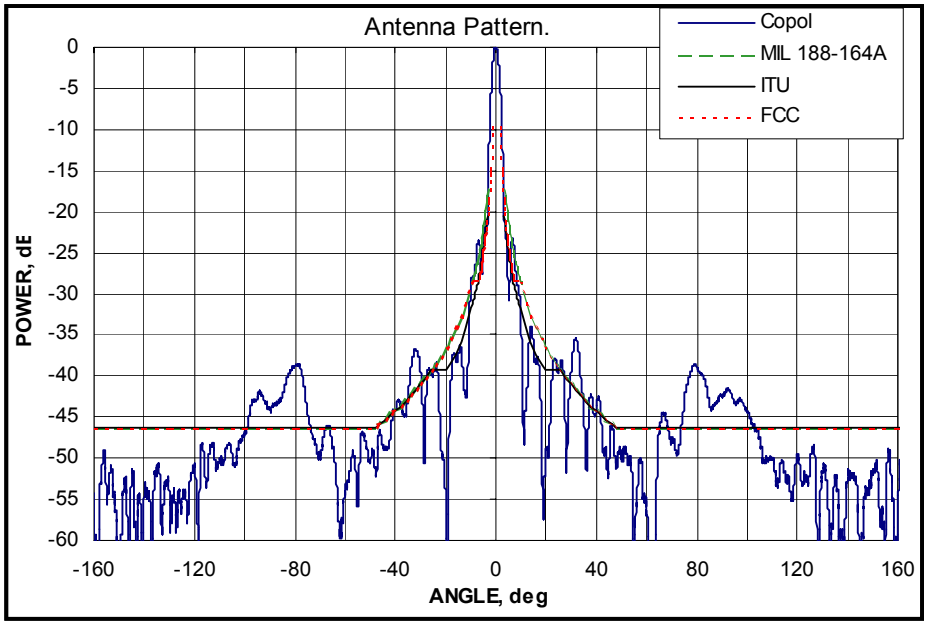


Fig 3: 11.7 GHz Patterns. With Radome

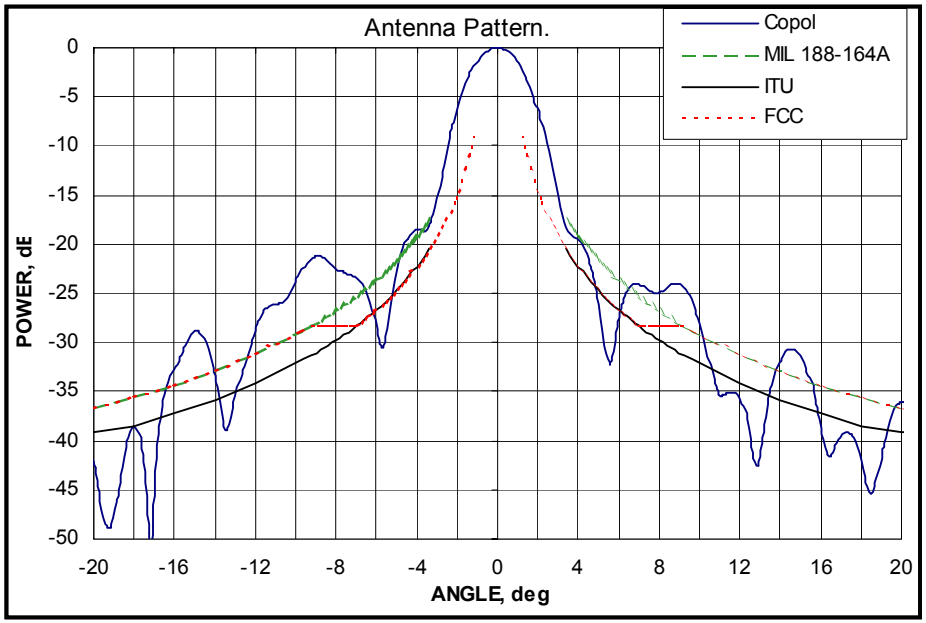
Azimuth ±20° Cut.



Azimuth ±180° Cut.



Elevation ±20° Cut



Elevation ±180° Cut.