



structures
engineering

Boeing Airframe Skin Temperature Limitations

Limitations applicable to external Large Antenna Installations
built to ARINC 792 Industry Standard Specifications

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Not subject to U.S. Export Administration Regulations (EAR) (15 C.F.R. Parts 730-774) or U.S. International Traffic in Arms Regulations (ITAR), (22 C.F.R. Parts 120-130)

Antenna Hardware Thermal Management

ARINC 792 “Second Generation Ku-Band and Ka-Band Satellite Communication System”

- These thermal limitations and characteristics apply to Boeing Commercial Airplanes (BCA), including Production and Future products with metallic and composite skins.
- External skin thermal limitations:
 - The antenna hardware must protect the fuselage skin from the effects of concentrated heat sources by limiting the fuselage skin temperature exposure to $T_{(skin_max)} = 180^{\circ}\text{F}$ for ground and flight operations.
 - The antenna hardware must also account for surface area temperature gradients on the fuselage skin to not exceed $T_{(skin_max)}$ beyond a 5 inch perimeter away from the edge under the antenna hardware installed in close proximity to the fuselage skin.

Notional Guidelines on Skin Temp. Gradient



