

structures engineering

Boeing Airframe Skin Temperature Limitations

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

Brenda Hidalgo August 10, 2021

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

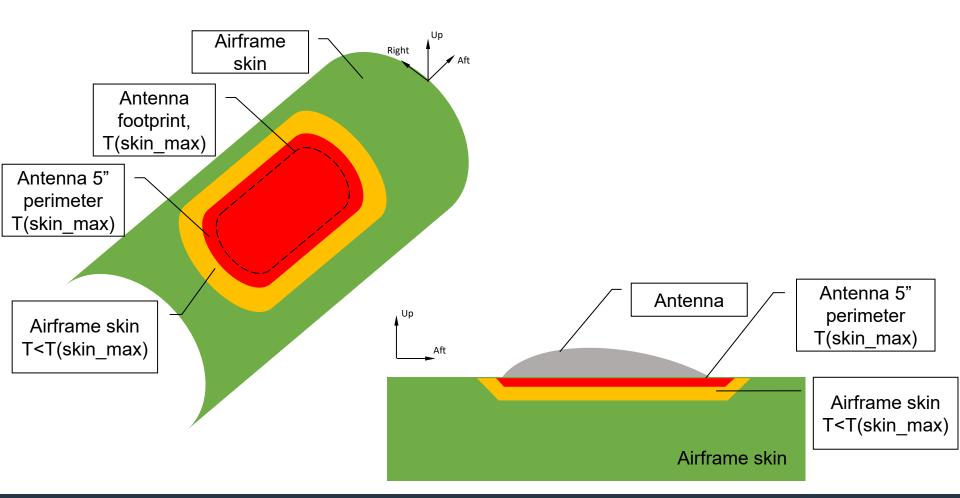
ARINC 792 "Second Generation Ku-Band and Ka-Band Satellite Communication System"

- 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°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.



NOT SUBJECT TO EAR OR ITAR

Notional Guidelines on Skin Temp. Gradient





NOT SUBJECT TO EAR OR ITAR

Copyright © 2021 Boeing. All rights reserved.

