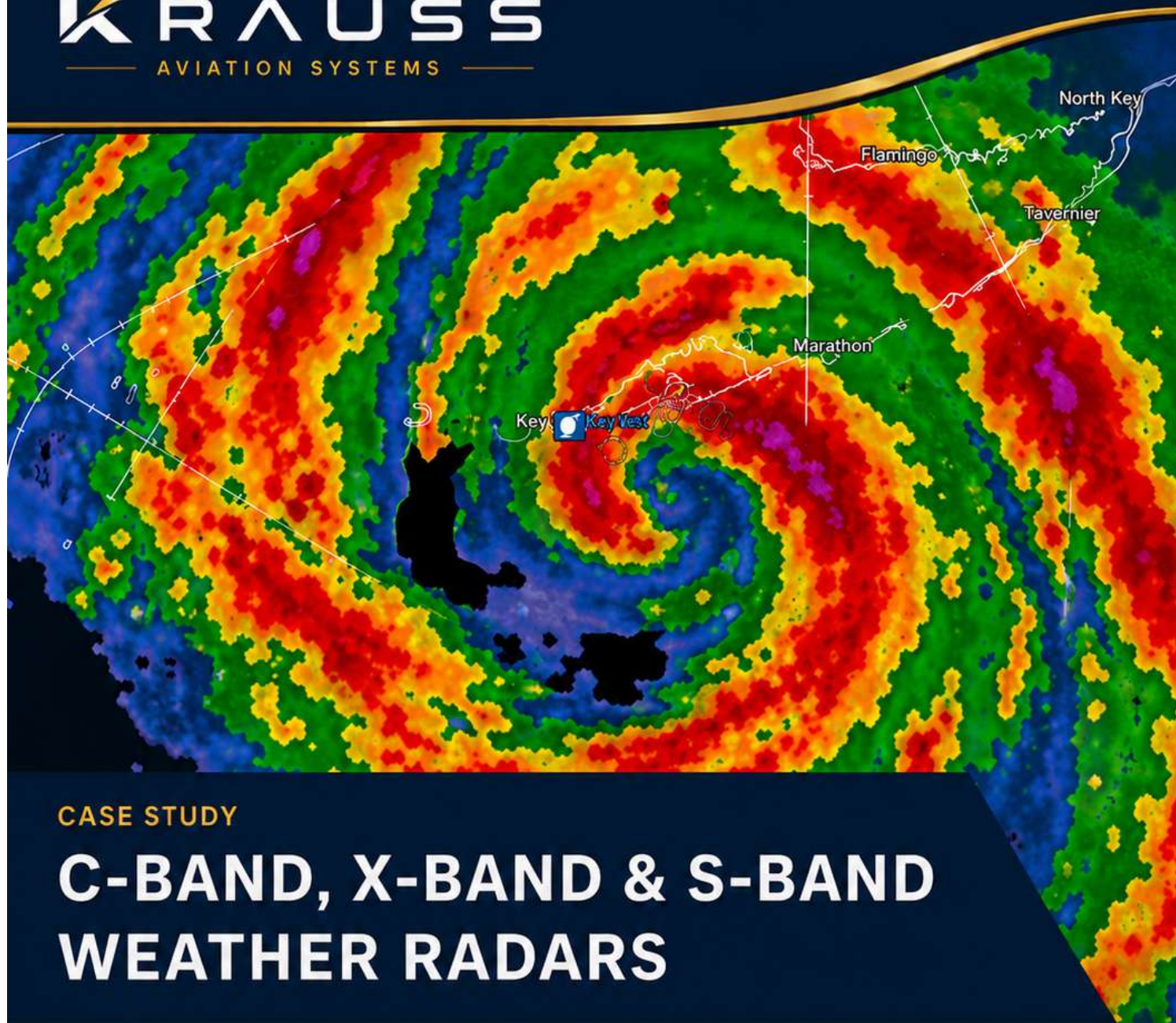




CASE STUDY

C-BAND, X-BAND & S-BAND WEATHER RADARS

Krauss Weather Radars team has more than 25 years of experience deploying, upgrading and maintaining C-Band, X-Band and S-Band Weather Radars in Europe, Africa and North America.



C-BAND RADAR

Long-range detection with excellent performance in severe weather conditions.



X-BAND RADAR

High-resolution observations for accurate tracking and warning.



S-BAND RADAR

Superior atmospheric penetration for precipitation and volumetric analysis.



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SOLID-STATE DOPPLER POLARIZATION WEATHER RADAR

SOLID-STATE TRANSMISSION - S-KRAUSS

S BAND RADAR

The S-Krauss is a solid-state Doppler weather radar with dual polarization capability, designed for accurate detection and analysis of meteorological phenomena. It provides high performance, reliability, and operational efficiency for a wide range of weather monitoring applications.



**S BAND
RADAR**

SYSTEM

Mode	Dual Polarization Doppler Radar, Solid-State Transmission
Operating Frequency	2700 ~ 2900 MHz (S Band)
Pulse Width	0.3 - 100 μ s
Pulse Repetition Frequency (PRF)	200 ~ 2500 Hz
PRF Alternation Rate	None, 3:2, 4:3 or 5:4
Range	400 km (typical) 600 km (maximum)
Maximum Doppler Velocity	up to 256 m/s
Basic Data	Z, UZ, V, W
Polarimetric Data	ρ_{HV} , Φ_{DP} , K_{DP} , Z_{DR} , LDR
Operating Temperature	External: -20°C ~ +50°C Internal: +5°C ~ +35°C (25°C typical)
Operating Relative Humidity	External: $\leq$ 95% Internal: 20% ~ 80% @ 25 °C

ANTENNA / PEDESTAL

Type	Solid parabolic reflector
Reflector Diameter	8.54 m
Minimum Gain	$\geq$ 44.5 dBi
3 dB Beamwidth	$\leq$ 1.0°
Polarization	Horizontal / Horizontal and Vertical
Side-lobe Level	$\leq$ -27 dB
VSWR	$\leq$ 1.6 @ $\pm$ 5 MHz
Pedestal Structure	Elevation over azimuth
Angular Coverage	AZ: 0° ~ 360° EL: 0° ~ +90° (typical) EL: -2° ~ +182° (optional)
Angular Positioning Accuracy	$\pm$ 0.04°
Slewing Velocity	AZ: 0° ~ 36°/s (6 rpm) EL: 0° ~ 12°/s (2 rpm)
Weight	Approximately 9,200 kg

RADOME

Type	Fiberglass panels with foam core
Size	11.8 m
Weight	3.4 t
Transmission Loss	0.2 dB (dry radome)
Wind Speed (Operational)	$\leq$ 67 m/s (gust)
Lightning Protection	Lightning rod

TRANSMITTER

Type	Solid-State Amplifier
Peak Power	$\geq$ 2.5 kW per channel
Duty Cycle	$\leq$ 10 %
Bandwidth	$\leq$ 4 MHz
Transmission Blanking	AZ and EL



HIGH PERFORMANCE

Advanced solid-state technology delivers reliable and precise weather observations.



DUAL POLARIZATION

Provides comprehensive polarimetric data for improved meteorological analysis.



WIDE COVERAGE

Long detection range and high sensitivity for severe weather monitoring.



RELIABLE & DURABLE

Robust design for continuous operation in demanding environments.





ACCURATE. RELIABLE. COMPLIANT.

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D-AW21 Automatic Weather Observing System - developed by DICOM HME
Delivered, integrated and supported in Europe, Africa and Southeast Asia by KRAUSS Aviation Systems