



TÜBİTAK  
BİLGEM



# KAŞIF

## MULTI-DIMENSIONAL RADIO COMMUNICATION SIGNAL ANALYSIS PLATFORM

The KAŞIF System, which we define as a Multi-Dimensional Radio Communication Signal Analysis Platform, is a communications intelligence system that performs AI-based analysis across the time, frequency, and spatial domains of signals received from sources transmitting in the 75 MHz-6 GHz frequency range, executing three main functions:

- Signal direction finding and geolocation
- Estimation of signal spectrum parameters
- Identification of the communication protocol and modulation of the signal



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## MULTI-DIMENSIONAL RADIO COMMUNICATION SIGNAL ANALYSIS PLATFORM

### GENERAL SPECIFICATIONS

Operating Frequency Range	75 MHz – 6000 MHz center frequency tuning
Dimensions	19" rack compatible, 89 x 483 x 610 mm (H x W x D)
Power	18 – 36 VDC, 180 W
Number of Receive Channels	4 / 8 (upgradable)
Number of Transmit Channels	4 / 8 (upgradable)
Maximum Instantaneous Bandwidth	200 MHz per receive channel
Sampling Bit Depth	ADC/DAC bit resolution
Automatic/Manual Gain (AGC)	0 – 30 dB adjustable gain range
Noise Figure (NF)	14 dB
Receiver Sensitivity	-110 dBm, 3 KHz DDC BW
Analog Modulation	AM, FM, SSB, CW, FSK, BPSK
Digital Modulation	Optional
Spurious-Free Dynamic Range (SFDR)	70 dB
Total Dynamic Range	100 dB
Compliance with Harsh Environmental Conditions	MIL-STD-461F & MIL-STD-810G

### FUNCTIONAL CAPABILITIES

Spectrum Monitoring for Communication Signals
Spectrum Usage Estimation
High-Resolution Direction Finding and Geolocation
Frequency-Hopping Signal Detection & Direction Finding
AI-Based Communication Signal Classification

