

# Custom Solutions for Ground based SATCOM Applications



## Introduction

The Alaris Group offer class leading bespoke module solutions for use in the latest and next generation of ground based SATCOM applications.

Alaris design and manufacture both Block Upconverter (BUC) and Block Down Converter (BDC) modules as well as Antenna and RF feed solutions.

## Alaris Linwave

Alaris Linwave manufacture a range of C, X, Ku and Ka band BUC's with both low power and higher power solutions.

The low power variants are designed to be used with external Solid State Power Amplifiers (SSPA) or Travelling Wave Tube Amplifiers (TWTA) and include a number of class leading features.

The higher power modules incorporate integrated GaN based power amplifiers for optimum

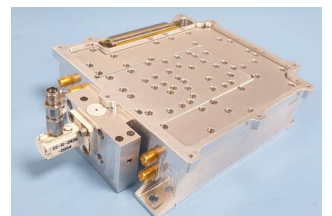
performance and reliability.

The products are designed for challenging environments and meet the relevant legislative requirements.

Alaris Linwave currently offer X band and Ku band integrated BUC modules with up to 20W linear power and Ka band with a maximum operating power of 10W. Higher power Ka band modules are in development. These modules are designed for specific end use applications.

## BUC Features/Options

- Customer adjustable gain
- Temperature compensated
- GUI controlled (Graphical User Interface)
- Integral filtering
- Summary fault/Lock detect output
- Over temperature warning/protection
- Output power detector/protection
- Conduction cooled
- iDirect OpenBMIP™ standard compatible
- Ka band - 27.5 - 31GHz coverage (4 x 1GHz bands)
- RS-422, CAN BUS and Custom control interfaces
- Internal/External reference options (auto switching)



## Alaris Kuhne

Alaris Kuhne manufacture a range of BDC modules which are available from L to K band. They feature high selectivity by usage of advanced filtering at the input as well as very low noise figures due to their input LNA stage.

### BDC Features/Options

- Switchable gain (high/low) or adjustable
- Integral filtering
- Status indication via LED
- IP67 outdoor rating (available for some connector types)



A programmable LO with dip switches for preselected frequencies allows for precise selection of the desired IF centre frequency. An additionally high or low gain selection allows for compensation of cable losses. LNCs are available as IP67 outdoor variants.

- Over voltage protection at the input
- Serial control interface
- Internal/External reference options (available for some bands)



## Alaris mWAVE

Alaris mWAVE are a leading global provider of innovative commercial and custom microwave antenna and feed solutions. With models ranging from 100 MHz Solid, Perforated and Grid Parabolic antennas to custom Multi-Band Feeds and Antennas operating up to 125 GHz.

Our products range from single to multi-band frequencies, linear and circular polarizations and are manufactured in sizes as small as patch to over 15-ft(4.6m) diameter. Due to a multitude of operating parameters and physical constraints, antenna selection plays a critical role in a successful SATCOM solution.

### Features/Options

- Precision lightweight carbon composite reflector
- All metal waveguide feed construction for maximum radiation efficiency
- Large aperture ground station feed systems with fully integrated transceiver front ends (RxFE)
- Small and medium aperture auto-track reflector antennas

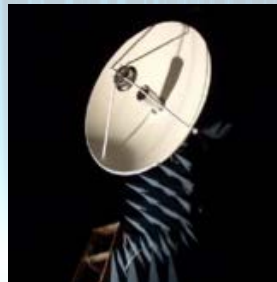
- Single and dual channel architectures for multiband and polarization applications
- Prime focus dual linear polarized feeds
- Remote transmit band and polarization switching
- High speed Elevation-over-Azimuth antenna positioners
- RFoF links and associated equipment
- Large on-site fully equipped Outdoor Test Range



C-Band Feed



X-Band



Ku-Band



Ka-Band