

# 12-20 W KA-BAND ONE-BOX-DESIGN BUC



SATELLITE COMMUNICATIONS

## EVEN MORE POWER FOR YOUR BUC

The new generation of Mitec**VSAT** Block Up-Converters comes with an integrated BUC/Booster package and designed for high efficiency resulting in an optimal compact form factor and lightweight with high performance and reliability. With the advanced customer interface and HTTP embedded web page, the operator is able to monitor and control the BUC and the System redundancy from a web browser.

The screenshot displays the Mitec VSAT web interface. At the top, it shows the Mitec logo and the version information: "BUC A FW ver: 216142-001 Rev: 6.0". Below this is a navigation bar with "HOME CONFIG LOG HELP". The main content area is divided into several sections:

- BUC A Status:** A table showing real-time data for BUC A.
 

Output power (dBm)	40.0
Temperature (°C)	52.1
Input voltage (Vdc)	47.8
Gain (dB)	60.0
IF Freq (MHz)	1400
Mute	Unmuted
Summary alarm	OK
- Controls:** A section for manual adjustments.
 

Mute	<input type="radio"/> Mute <input type="radio"/> Unmute	<input type="button" value="Set"/>
Gain	<input type="text"/> dB	<input type="button" value="Set"/>
IF Freq	<input type="text"/> MHz	<input type="button" value="Set"/>
- Alarm Details:** A table showing the status of various alarms.
 

Out of lock	OK
Temperature	OK
Input voltage	OK
Power supply	OK

At the bottom of the interface, it says "Copyright © 2009-2010 Mitec Telecom Inc."

## KEY FEATURES

- Compact size and light weight
- Offered in two Ka-Bands
  - Military Band: 30.0-31.0 GHz
  - Commercial Band 29.5-30.0 GHz
- Best in Class efficiency with less than 180W draw for 12 W RF Output and 300W draw for 20W RF Output
- Easy to install
- High thermal dissipation efficiency resulting in "Best in Class" Mean Time Before Failure (MTBF)
- Superior phase noise, 5 dB better than IESS 308 /309
- 1:1 switching logic built into the BUC eliminating expensive external controller
- Built-in facilities for critical parameters such as: RF power detection, mute control, over temperature shutdown, summary alarm
- HTTP Hosting
- SNMP
- TELNET through TCP/IP
- RS485, RS232, Ethernet and Dry-Contacts M&C interface

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**mitec VSAT**  
a division of Alga Microwave Inc.

# 12-20 W KA-BAND BUC

TRANSMIT CHARACTERISTICS	12 W	20 W
Output Frequency Range	Military Band: 30.0-31.0 GHz; Commercial Band: 29.5-30.0 GHz	
Input Frequency Range	Military Band: 1000-2000 MHz; Commercial Band: 950-1450 MHz	
LO Frequency	Military Band: 29.00 GHz; Commercial Band: 28.55 GHz	
Conversion Type	Single stage, Non-inverting	
Saturated Output Power	41 dBm typ.	43 dBm typ.
Linear Output Power	36 dBm	39 dBm
Small Signal Gain	60 ± 2.0 dB (over temperature range)	
Gain Stability	± 0.25 dB max per day at constant temperature; ± 1.0 dB over -40°C to + 55°C	
Gain Flatness at fixed temperature	Over any 125 MHz segment: ± 0.5 dB; Over any 500 MHz segment: ± 1.0 dB Over any 1 GHz segment: ± 1.5 dB	
Intermodulation	-25 dBc max. @ 36dBm output (combined power of 2 carriers) for 12W	-25 dBc max. @ 39dBm output (combined power of 2 carriers) for 20W
L.O. Phase Noise	-65 dBc/Hz max @ 100 Hz, -75 dBc/Hz max @ 1 KHz, -85 dBc/Hz max @ 10 KHz, -95 dBc/Hz max @ 100 KHz, -105 dBc/Hz max @ 1 MHz, -115 dBc/Hz max @ 10 MHz	
10 MHz Reference SSB Phase Noise	-135 dBc/Hz max @ 100 Hz, -150dBc/Hz max @ 1 KHz, -160dBc/Hz max @ 10 KHz, -170 dBc/Hz max @ 100 KHz	
10 MHz Reference (via IF connector)	0 dBm ± 0.5 dB (internal reference optional)	
Output Spurious	Signal Dependent: -60 dBc; Signal Independent: -55 dBm	
Receive Noise Power Density	-100 dBm/Hz	
Input IF Impedance	50 Ohms	
Power Requirements	48 VDC	
Power Consumption (at rated power)	180W	300W

## INTERFACE

Output Interface	Waveguide, WR28-G (Grooved)
Input Interface	N-type, female, 50 Ohms, (IF/10 MHz)
DC Power Connector	Military Connector
M&C (RS485/RS2432/Ethernet)	Military Connector
RF Sample Port	K-type (2.92 mm) Female

## MECHANICAL

Cooling	Forced Air	
Dimensions (L x W x H)	11" x 6" x 5" (279.4 x 152.4 x 127.0 mm)	11" x 10" x 6" (279.4 x 254.0 x 152.4 mm)
Weight	11lbs (5 kg)	16lbs (7.27 kg)

## ENVIRONMENTAL

Temperature Range (ambient)	-40° to +55°C (operating), -40° to +75°C (storage)	
Humidity	0 to 100% (condensing)	
Altitude	10000 ft ASL	

## ORDERING INFORMATION\*

Military Band Block Upconverter	MTX-30031040-60-ES-XX	MTX-30031043-60-ES-XX
Commercial Band Block Upconverter	MTX-29530040-60-ES-XX	MTX-29530043-60-ES-XX

\*When ordering, replace "-XX" by one of the following options:

-40: External Reference, DC Power

-47: Internal Reference, DC Power

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