

# Block Up-Converter (BUC)

## Ka-Band 40W



### ◆ Company Overview

RevGo designs and manufactures satellite earth station RF from low to high power. RevGo was founded in 2002 with its headquarters in the Washington DC corridor. RevGo's broad VSAT product line is produced to stringent quality standards using an ISO9001:2015 quality system:

- Block upconverter (BUC)
- Low noise block (LNB)
- Transceiver (Tx/Rx/OMT/filters)
- C-, Ku-, DBS-, Ka-bands
- 2 to 300W output power

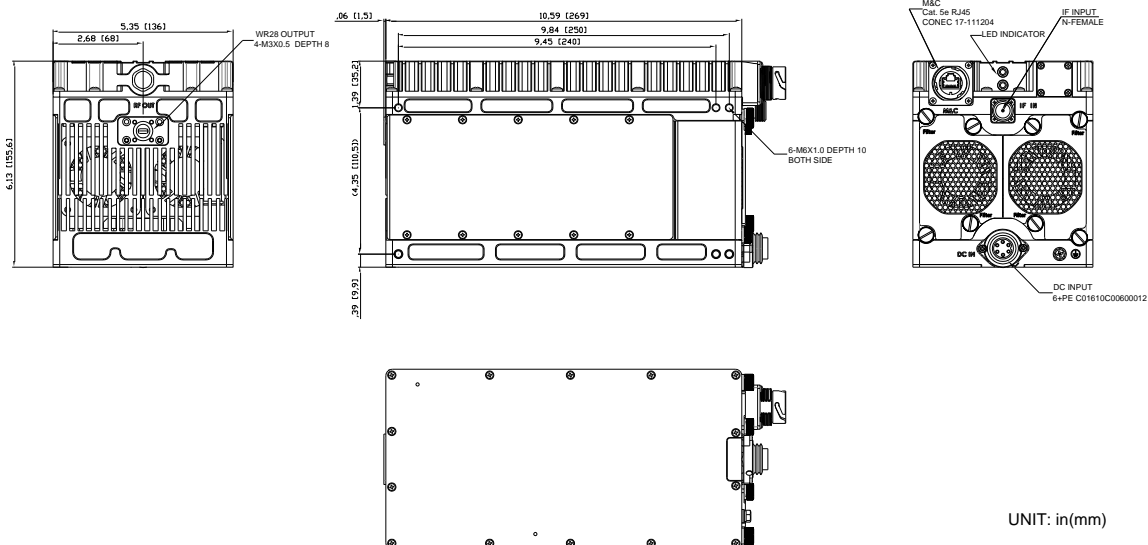
### ◆ Reliability

- Highly integrated RF technologies (RFIC and GaN)
- Designed for high volume production
- Linearity optimized for high order modulation and high data rate
- Strict quality control processes resulting in <0.25% field failure rates

### ◆ Product Features

- Software selectable sub-band 27.5-31 GHz (single-, dual- and tri-band)
- Independently removable fans without causing service interruption
- Variable power consumption 350W (@46dBm)  
225W (@43dBm)
- Compact and light weight 12 lbs / 5.8 kg
- Low phase noise (exceeds IESS308/309)
- Stable linearity to 500 MHz bandwidth
- Independently removable fans
- Rugged design for extreme environments (-40 to +60°C)
- M&C with real-time clock, event log, web interface, SNMP, and O-BMIP

### ◆ Mechanical Diagram (Unit: inch (mm))



### ◆ Typical VSAT Applications

- Maritime
- 5G Backhaul
- SNG Vehicle
- Terminals
  - Fixed
  - Portable
  - Transportable

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## SPECIFICATIONS

### ◆ RF Specifications

|                              |  |
|------------------------------|--|
| <b>RF Frequency</b>          | <b>General</b><br>27.5 -31 GHz<br>(Available in many band options)                               |
| <b>IF Frequency</b>          | 950-1950 MHz<br>(Exact range depends on band option)   |
| <b>External Ref</b>          | 10 MHz, 0 ± 5 dBm  |
| <b>Output Power</b>          |  |
| <b>Rated/Saturated</b>       | 46 dBm   |
| <b>PLin<sup>1</sup></b>      | 45 dBm   |
| <b>PLin<sup>2</sup></b>      | 44 dBm   |
| <b>PLin<sup>3</sup></b>      | 43 dBm   |
| <b>IMD3 (3dB from rated)</b> | - 25 dBc   |
| <b>Small Signal Gain</b>     | 67-77 dB   |
| <b>Gain Variation</b>        | 1 dB p-p / 36 MHz<br>3 dB p-p / 500 MHz<br>4 dB p-p / 1000 MHz                                   |
| <b>Gain stability</b>        | 3 dB p-p   |
| <b>Gain Adjustment</b>       | 10 dB (Step: 0.1 dB)   |
| <b>Phase Noise</b>           | -63 dBc / Hz @ 100 Hz<br>-73 dBc / Hz @ 1 KHz<br>-83 dBc / Hz @ 10 KHz<br>-93 dBc / Hz @ 100 KHz |
| <b>Output Spurious</b>       | -60 dBc  |

#### Notes:

**PLin<sup>1</sup>:** -26 dBc regrowth, 1.5 SR (commercial satellite)

**PLin<sup>2</sup>:** -30 dBc regrowth, 1.0 SR (MIL-STD-188-164B, one-carrier)

**PLin<sup>3</sup>:** <-25 dBc IMD3 (MIL-STD-188-164B, two-carrier)

| FREQUENCY LIST   |                        |                 |                 |
|------------------|------------------------|-----------------|-----------------|
| BUC FREQ BAND ID | BUC TX RF FREQ GHz     | BUC IF FREQ MHz | BUC LO FREQ GHz |
| 1 =              | 29.0 – 30.0            | 950 – 1950      | 28.05           |
| 2 =              | 29.5 – 30.0            | 950 – 1450      | 28.55           |
| 3 =              | 30.0 – 31.0            | 950 – 1950      | 29.05           |
| 4 =              | Band 1=29.0 – 30.0     | 950 – 1950      | 28.05           |
|                  | Band 2=30.0 – 31.0     | 950 – 1950      | 29.05           |
| 5 =              | 27.652 – 28.388        | 1052 – 1788     | 26.60           |
| 6 =              | 28.172 – 29.071        | 972 – 1871      | 27.20           |
| 7 =              | Band 1=27.652 – 28.388 | 1052 – 1788     | 26.60           |
|                  | Band 2=28.172 – 29.071 | 972 – 1871      | 27.20           |
| T =              | Band 1=27.5 – 28.5     | 950 – 1950      | 26.55           |
|                  | Band 2=28.25 – 29.25   | 950 – 1950      | 27.30           |
|                  | Band 3=29.0 – 30.0     | 950 – 1950      | 28.05           |

### ◆ Part Number / Ordering Information.

| RGUC – A <u>a</u> 40 – 48 <u>bb</u> – M |                               |
|---|-------------------------------|
| <b>a:</b> Frequency Band                | <b>bb = M&amp;C Interface</b> |
| 1 = 29.00-30.00 GHz                     | NE = Ethernet                 |
| 2 = 29.50-30.00 GHz                     | RE = Eth & RS485/232          |
| 3 = 30.00-31.00 GHz                     |                               |
| 4 = 29.00-31.00 GHz, dual-band          |                               |
| 5 = 27.652-28.388 GHz                   |                               |
| 6 = 28.172-29.071 GHz                   |                               |
| 7 = 27.652-29.071 GHz, dual-band        |                               |
| T = 27.50-30.00 GHz, tri-band           |                               |

### ◆ Power Supply

|                            |                 |
|----------------------------|-----------------|
| <b>Input Power</b>         | +36 to +60 V DC |
| <b>Power Consumption</b>   |                 |
| @ PLin <sup>3</sup> Output | 225W            |
| @ Rated Output             | 350W            |

### ◆ Interfaces

|                               |                                 |
|-------------------------------|---------------------------------|
| <b>RF Output Connector</b>    | WR28-G (Grooved)                |
| <b>RF Output VSWR</b>         | 1.25:1                          |
| <b>IF Connector</b>           | N-Type Female                   |
| <b>IF Input VSWR</b>          | 1.5:1                           |
| <b>Power Connector</b>        | C01610C00600012                 |
| <b>M&amp;C Connector</b>      | RJ45<br>PT02E-12-14P (optional) |
| <b>Alarm Status Indicator</b> | LED (Yellow & Red)              |

### ◆ Physical Parameters

|                              |                     |
|------------------------------|---------------------|
| <b>Size</b> (inches)         | 10.6*5.4*6.1        |
| (mm)                         | 269*136*156         |
| <b>Weight</b> (lbs)          | 12 lbs              |
| (kg)                         | 5.8 kg              |
| <b>Operating Temperature</b> | -40 to +60°C        |
| <b>Humidity</b>              | 0-100% (condensing) |
| <b>Altitude</b>              | 0-10,000 feet ASL   |