



# Block Up-Converter (BUC) Ka-Band 300W



## SPECIFICATIONS

### RF Specifications

|                         |  |               |               |               |
|-------------------------|--|---------------|---------------|---------------|
| RF Frequency            | 27.50-30.00 GHz<br>27.50-31.00 GHz (optional)  |               |               |               |
| General Network         | <b>Band 1</b>  | <b>Band 2</b> | <b>Band 3</b> | <b>Band 4</b> |
| RF Freq (GHz)           | 27.5-28.5  | 28.25-29.25   | 29-30         | 30-31         |
| LO Freq (GHz)           | 26.55  | 27.30         | 28.05         | 29.05         |
| IF Freq (GHz)           | 0.95-1.95  |               |               |               |
| External Ref            | 10 MHz, 0 ± 5 dBm  |               |               |               |
| Internal Ref (optional) |  |               |               |               |
| Oscillator Accuracy     | ±100 ppb typ.  |               |               |               |
| Oscillator Stability    | ± 5 ppb typ.   |               |               |               |
| Output Power            |  |               |               |               |
| Rated (dBm)             | 54.8   |               |               |               |
| PLin <sup>1</sup> (dBm) | 53.8   |               |               |               |
| PLin <sup>2</sup> (dBm) | 52.8   |               |               |               |
| PLin <sup>3</sup> (dBm) | 51.8   |               |               |               |
| IMD3 (@Prated-3dB)      | - 25 dBc   |               |               |               |
| Small Signal Gain       | 70 dB min. @ Prated-3dB  |               |               |               |
| Gain Adjustment         | 45-70 dB (25 dB, Step by 0.5 dB)   |               |               |               |
| Gain Variation          | 0.1 dB p-p / MHz<br>3 dB p-p / 500 MHz<br>4 dB p-p / 1000 MHz                                    |               |               |               |
| Gain stability          | 2 dB p-p min   |               |               |               |
| TX noise density        | -76 dBm/Hz   |               |               |               |
| RX noise density        | -156 dBm/Hz (@ ≤21.20 GHz)   |               |               |               |
| Phase Noise             | -63 dBc / Hz @ 100 Hz<br>-81 dBc / Hz @ 1 KHz<br>-85 dBc / Hz @ 10 KHz<br>-95 dBc / Hz @ 100 KHz |               |               |               |
| Output Spurious         | -60 dBc max.   |               |               |               |
| Harmonic                | -30 dBc max. @ Prated<br>(-60 dBc with optional filter)  |               |               |               |

**Notes:**  
 Plin<sup>1</sup>: -26dBc regrowth, 1.5SR (commercial satellite)  
 Plin<sup>2</sup>: -30dBc regrowth, 1.0SR (MIL-188-164B, one-carrier)  
 Plin<sup>3</sup>: -25dBc IMD3 (MIL-188-164B)

### Power Supply

|                            |                           |
|----------------------------|---------------------------|
| Input Power                | 200 to 240 VAC (50-60 Hz) |
| Power Consumption          |                           |
| @ Plin <sup>3</sup> Output | 1,800 W typ.              |
| @ Rated Output             | 2,800 W typ.              |

### Interfaces

|                        |   |
|------------------------|---|
| RF Output Connector    | WR34-G (Grooved)<br>WR28-G (Grooved) (optional) |
| RF Output VSWR         | 1.3:1   |
| IF Connector           | N-Type Female                                   |
| IF Input VSWR          | 1.5:1   |
| RF Sample connector    | 2.9mm SMA Female                                |
| Power Connector        | ACS02E-16-10P                                   |
| M&C Connector          | PT02E-14-19P (RS232/485)                        |
| Ethernet Connector     | RJ45 (Ethernet, 100/1000 MHz)<br>SNMPv2         |
| Redundancy Connector   |   |
| Link Connector         | PT02E-12-14S                                    |
| Switch Connector       | PT02E-12-14P                                    |
| Alarm Status Indicator | LED (green/red)                                 |

### Physical Parameters

|                       |          |                     |
|-----------------------|----------|---------------------|
| Size                  | (inches) | 17.72x15.75x9.05    |
|                       | (mm)     | 450x400x230         |
| Weight                | (lbs)    | 66.13               |
|                       | (kg)     | 30                  |
| Operating Temperature |          | -40 to +60°C        |
| Humidity              |          | 0-100% (condensing) |
| Altitude              |          | 0-10,000 feet ASL   |

### Part Number / Ordering Information

RGUC -A<sub>a</sub>300-ACR<sub>b</sub>N-C<sub>c</sub>

|   |                        |
|---|------------------------|
| <b>a: Frequency Range</b>               | <b>b: Reference</b>    |
| T = 27.50-30.00 GHz                     | E = External reference |
| Q = 27.50-31.00 GHz                     | L = Internal reference |
| <b>c: OpenBmip</b>                      |                        |
| P = With openBmip calibration tables    |                        |
| 0 = Without openBmip calibration tables |                        |

### Contact Information

|            |  |  |
|------------|--|--|
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