

# 20KU0002A

This device is suitable for satellite video and data applications.

The 20KU0002A BUC system equipment is constituted by 3 parts: BUC, SSPA and WR75 waveguide.

The BUC executes translation of the input signal from L Band (950 ÷ 1450MHz) to Ku Band (14.00 ÷ 14.50GHz). The SSPA amplifies the Ku Band signal coming from the BUC through WR75 waveguide up to 20W.

The fan installed above the SSPA improves heat dissipation.



**BUC & SSPA System**  
L Band - Out 20W 14.0-14.5 GHz

Model Type: **20KU0002A**



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**BUC & SSPA System**  
**20KU0002A**

# BUC & SSPA System

## L Band - Out 40W 14.0-14.5 GHz

Model Type: **20KU0002A**

### Mechanical Specification

| BUC Section                |  |
|----------------------------|--|
| Dimension:                 | 190x100x70 mm  |
| IF Input interface :       | N female connector   |
| RF Out interface :         | WR75 PBR120 wave-guide Flange  |
| Power Supply:              | 15 to 24VDC through IF connector   |
| Interface:                 | Green Led for Power supply present<br>Green Led for Lock Reference   |
| Power Consumption:         | 20W  |
| Weight:                    | 0.8 Kg   |
| SSPA Section               |  |
| Dimension:                 | 240x200x200 mm   |
| RF Input interface :       | WR75 PBR120 wave-guide Flange  |
| RF Out interface :         | WR75 PBR120 wave-guide Flange  |
| Power Supply:              | 230VAC through 3-poles MIL female connector  |
| Fan Power Supply:          | 12VDC through 4-poles MIL female connector on SSPA   |
| Alarm interface:           | Through 6-poles MIL connector<br>(Dry contact for summary alarm)<br>(Dry contact for high temperature)<br>(0 to 10 VDC slope 0.2V/dB for Output Power Meter) |
| Absorbed current:          | 0.60A max  |
| Weight:                    | 5 Kg   |
| General                    |  |
| Operating Temperature:     | -40 ÷ +60 °C   |
| Relative Humidity:         | 5 ÷ 100 %  |
| Water protection:          | IP67   |
| Waveguide interconnection: | WR75 PRB120/PBR120 flange L=70mm (between SSPA and BUC)  |

### Technical Specification

| BUC Section                     |  |
|---------------------------------|--|
| <b>Input Characteristics</b>    |  |
| Frequency                       | 950 ÷ 1450 MHz                                 |
| Impedance                       | 50 Ohm   |
| Return loss                     | 15 dB min                                      |
| <b>Output Characteristics</b>   |  |
| Frequency                       | 14.00 ÷ 14.50 GHz                              |
| Impedance                       | 50 Ohms  |
| Return loss                     | 15 dB min                                      |
| Power output                    | @1dB compr. 33 dBm                             |
| <b>Transfer characteristics</b> |  |
| Gain                            | +55 dB min                                     |
| Gain flatness                   | ±0.8dB max (40MHz BW) ±1dB over any 80MHz Band |
| <b>Spurious outputs</b>         |  |
| Carrier independent             | -60dBm max                                     |
| Carrier dependent               | -80dBc min                                     |
| LO leakage                      | -40dBm max                                     |
| <b>Local Oscillator</b>         |  |
| Frequency                       | 13,050 GHz                                     |
| Phase Noise @1kHz               | <-70 dBc/Hz min                                |
| Phase Noise @10kHz              | <-80 dBc/Hz min                                |
| Phase Noise @1MHz               | <-90 dBc/Hz min                                |
| <b>General</b>                  |  |
| Reference signal frequency      | 10MHz sine-wave                                |
| Reference signal level          | -10 to +0dBm @50 ohm                           |
| Gain Stability                  | ±0.5 dB/day at constant temperature max        |
| Group delay                     | < 10 ns over any 80 MHz band max               |
| Spurious in TX Band             | -55 dBc @ <1MHz<br>-60dBc@>1MHz                |
| SSPA Section                    |  |
| <b>Input Characteristics</b>    |  |
| Input frequency range           | 14.00 ÷ 14.50 GHz                              |
| <b>Output Characteristics</b>   |  |
| Output frequency range          | 14.0 ÷ 14.50 GHz                               |
| Output power                    | 42.4 dBm (@1dB compression point)              |
| Saturation Output power         | 43.0 dBm                                       |
| Overall Gain                    | 70.4 dB (BUC-SSPA Assembly)                    |

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