Antech
SATELLITE COMMUNICATIONS

BUC & SSPA System
L Band - Out 40W 14.0-14.5 GHz

Model Type: **40KU0002A**

40KU0002A

This device is suitable for satellite video and data applications.
The 40KU0002A 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 40W. The fan installed above the SSPA improves heat dissipation.

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Mechanical Specification

BUC Section	
Dimension:	190x100x70 mm
IF Input interface :	N female connector
RF Out interface :	WR75 PBR120 waveguide Flange
Power Supply:	15 to 24VDC through IF connector
Interface:	Green Led for Power supply present Green Led for Lock Reference
Power Consumption:	20W
Weight:	0.8 Kg

SSPA Section	
Dimension:	240x200x200 mm
RF Input interface :	WR75 PBR120 waveguide Flange
RF Out interface :	WR75 PBR120 waveguide 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 (Dry contact for summary alarm) (Dry contact for high temperature) (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	
Input Characteristics	
Frequency	950 ÷ 1450 MHz
Impedance	50 Ohm
Return loss	15 dB min
Output Characteristics	
Frequency	14.00 ÷ 14.50 GHz
Impedance	50 Ohm
Return loss	15 dB min
Power output	@1dB compr. 33 dBm
Transfer characteristics	
Gain	+55 dB min
Gain flatness	±0.8dB max (40MHz BW) ±1dB over any 80MHz band
Spurious outputs	
Carrier independent	-60dBm max
Carrier dependent	-80dBc min
LO leakage	-40dBm max
Local Oscillator	
Frequency	13.050 GHz
Phase Noise @1kHz	<-70 dBc/Hz min
Phase Noise @10kHz	<-80 dBc/Hz min
Phase Noise @100KHz	<-90 dBc/Hz min
General	
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 -60 dBc @>1MHz

SSPA Section	
Input Characteristics	
Input frequency range	14.00 ÷ 14.50 GHz
Output Characteristics	
Output frequency range	14.00 ÷ 14.50 Ghz
Output power	45.4 dBm (@1dB compression point)
Saturation Output power	46.0 dBm
Overall Gain	73.4 dB (BUC-SSPA Assembly)

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