

L-Band Block Upconverter (Indoor Version)

Single Band L-Band to C, X, Ku-Band

Specifications (cont.)

Part No.	SBU/SBUL-C	SBU/SBUL-X	SBU/SBUL-Ku1 – SBU/SBUL-Ku3
Diagnostic Interface (SBUL only)	RS232, connector DSUB09 female		
Alarm Interface	Alarm: two potential free contacts (DPDT), Connector DSUB09 female		
Temperature Range	0°C to 50°C operating - 30°C to 80°C storage		
Relative Humidity	< 95 % non condensing		
User Interface SBU	LCD-Display 2 x 40 characters, 4 cursor keys, 4 function keys VFD-Display 2 x 40 characters, 4 cursor keys, 4 function keys (option: VFD)		
User Interface SBUL	Attenuator selector on front panel		
Power Input	85...264 V AC, 40...70 Hz, approx. 15 W		
Mains Fuse	2 x 3.15 A time-lag fuse		
Dimension and Weight	483 x 44 x 310 mm ³ , 1 RU (19") approx.6 kg		

Other Information

SBU-[RF Band]-[Options] or SBUL-[RF Band]-[Options]
Possible Options are: VFD (VFD display, for SBU only)

Example:

SBU-Ku1 (Ku-Band 1)

Fixed L-Band Block Upconverter (Indoor Version)

Block Downconverter C-Band Input, L-Band Output, Fixed Gain

Specifications

Downconverter Type	BD-C
RF-Input Frequency	3.50...3.70 GHz
Conversion Scheme	Single down-conversion, frequency inversion
LO Frequency	5.154 GHz
RF-Input Characteristics	Impedance: 50Ω Return Loss: >20 dB (VSWR = 1.22) Maximum Aggregate Input Level: - 17 dBm LO Leakage: - 80 dBm max. RF-Connector: SMA female
IF-Output Characteristics	Frequency: 1454...1654 MHz Impedance: 50Ω Return Loss: >15 dB (VSWR = 1.43) 1 dB Compression Point: >19 dBm IF-Connectors: SMA female
Transfer Characteristics	Conversion Gain: 35 +/-2 dB (within the operating temperature range) Level Stability: ± 0.25 dB/day (constant temperature) Amplitude Ripple: ± 0.2 dB / 20 MHz Image Rejection: >80 dB Noise Figure: <11 dB

Fixed L-Band Block Upconverter (Indoor Version) Block Downconverter C-Band Input, L-Band Output, Fixed Gain

Specifications (cont.)

Downconverter Type	BD-C												
Group Delay (1454...1654 MHz)	Flat, Ripple: 1 ns peak to peak max.												
Intermodulation (3rd Order)	-60 dBc max (Δf_{in} : 5 MHz, $P_{out\ ges}$: < 3 dBm)												
AM / PM conversion	0.1° / dB (P_{out} = 0 dBm)												
Phase Noise	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">10 Hz</td> <td style="width: 50%; text-align: right;">- 62 dBc/Hz</td> </tr> <tr> <td>100 Hz</td> <td style="text-align: right;">- 83 dBc/Hz</td> </tr> <tr> <td>1 kHz</td> <td style="text-align: right;">- 89 dBc/Hz</td> </tr> <tr> <td>10 kHz</td> <td style="text-align: right;">- 101 dBc/Hz</td> </tr> <tr> <td>100 kHz</td> <td style="text-align: right;">- 104 dBc/Hz ¹</td> </tr> <tr> <td>1 MHz</td> <td style="text-align: right;">- 111 dBc/Hz ¹</td> </tr> </table> <p>¹) 0°C to 50°C, outside this temperature range degraded by max 5dB.</p>	10 Hz	- 62 dBc/Hz	100 Hz	- 83 dBc/Hz	1 kHz	- 89 dBc/Hz	10 kHz	- 101 dBc/Hz	100 kHz	- 104 dBc/Hz ¹	1 MHz	- 111 dBc/Hz ¹
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10 kHz	- 101 dBc/Hz												
100 kHz	- 104 dBc/Hz ¹												
1 MHz	- 111 dBc/Hz ¹												
Spurious Outputs	Signal independent: < - 70 dBc < - 80 dBm												
Frequency Stability	$\pm 1 \times 10^{-7}$ 0°C to 50°C $\pm 2 \times 10^{-8}$ 0°C to 50°C (after 10 min warm up) $\pm 5 \times 10^{-9}$ per day (fixed temperature after 24 h warm up)												
Reference Input	Frequency: 10 MHz or 5 MHz Level: -5...10 dBm Modes: auto (senses reference input) Connector: BNC female												
Reference Output	Frequency: 10 MHz Level: 0 \pm 3 dBm Connector: BNC female												
Test Output (Microwave Oscillator)	5.154 GHz -7 \pm 3 dBm SMA female												
Temperature Range	0°C to 50°C operating - 30°C to 80°C storage												
Relative Humidity	< 95 % non condensing												
Power Supply	85...264 V AC, 40...70 Hz												
Power Consumption	Max: 19 VA / 13 W Typ: 16 VA / 10 W												
Mains Fuse	1.6 A time-lag fuse												
Dimension and Weight	483 x 44 x 323 mm ³ , 1 RU (19") (maximum dimension) 436 x 44 x 280 mm ³ (dimension without front panel) approx. 3 kg												