Ku-Band

25 W Dual Ku-Band GaN Mini-BUC

Dual-Band Operation

Dual LO BUC, user selectable for standard or extended bands.

Features at a Glance

- Light weight (2.8 kg / 6.2 lbs) and small size (221 x 151 x 90 mm / 8.7” x 5.9” x 3.54”)
- Robust thermal design for maximum heat dissipation and high temp tolerance for maritime applications
- Industry benchmark for RF power efficiency and reliability in all conditions
- Guaranteed specifications with superior phase noise characteristics
- Includes selectable LO frequency for maximum operational flexibility
- Monitor and Control (M&C) via industry standard FSK protocols
- 14 pin M&C connector with RS-232, RS-485 and LAN interfaces
- Tri-state LED monitor
- Isolated 48 VDC operation
- DC power supply via separate MIL-type connector

Global Applications

Meets Electromagnetic Compatibility Directive 2014/30/EU to satisfy worldwide requirements and is CE-marked.

Worldwide Support

Backed by over 40 years of satellite communications experience, and CPI’s worldwide 24-hour customer support network that includes more than 20 regional factory service centers.

Model 4925

25 watt Ku-Band LAN Mini-BUCs for maritime, VSAT and SOTM **satellite uplink applications**

OPTIONS

- Internal or multiplexed 10 MHz reference
- 1:1 Redundant Switching - BUC is configured for 1:1 switching as standard. System hardware sold separately.
- Auto-sensing, high stability internal 10 MHz OCXO reference
- 14 pin M&C connector with RS-232, RS-485 and LAN interfaces

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25 W Dual Ku-Band GaN Mini-BUC

Model Number	4925
Power Rating	25 watts
Platform	Isolated 48 VDC Powered
RF Output Frequency Range (GHz)	13.75 to 14.50
Input Frequency Range (MHz)	950 to 1700
LO Frequency (MHz)	13050/12800 user selectable
Output Power (min.) Saturated (Psat, CW) Linear (Plin1) Linear (Plin2)	*Note: Plin1 is the RF output power at the specified intermodulation. Plin2 is the RF output power at specified spectral regrowth.* 44 dBm min. (25 watts) 41 dBm min. (12.5 watts) 42 dBm min. (16 watts)
Gain at 0 dB Attenuation (max. gain)	74 dB ±2.0 dB
Gain Flatness Over Any 40 MHz Band	±1.0 dB max.
Gain Flatness Over Full Band	±2.0 dB max.
Gain Stability Over Any 50°C range	±1.50 dB max.
Gain Stability Over Operating Temperature Range	±2.0 dB max. when frequency set ±3.0 dB max. when frequency not set
Reference Frequency (external)	10 MHz (Multiplexed via IFL on N-type transmit IF input)
Reference Frequency Level	-10 to +5 dBm
Reference Frequency (internal)	Optional
Frequency Conversion	Spectrum non-inverting
IF Input Impedance and Connector	50 Ω, N-Type
Input/Output VSWR	1.5:1 max.
Transmit Attenuator Steps	0 dB to 20 dB in 0.25 dB steps
IF Input Level Meter	-5 to -45 dBm, ±2.0 dBm
Output Power Meter Range/Accuracy	15 dB/±1.0 dB max
Output Power Meter Modes	CW and burst (>100 uS) with adjustable threshold
Intermodulation	-25 dBc max. with respect to each of two carriers 5 MHz apart at 6 dB backoff from rated power
Spectral Regrowth	<-30 dBc @ 1.0x symbol rate, 1024 kbps, QPSK 7/8 VIT at 2 dB backoff from rated P1dB
Spurious/Harmonic Output	-50 dBc max. at 3 dB backoff from rated power
Maximum Phase Noise (SSB) of Reference Frequency	-135 dBc/Hz at 100 Hz -145 dBc/Hz at 1 kHz -155 dBc/Hz at 10 kHz -155 dBc/Hz at 100 kHz
Phase Noise (SSB) of BUC With Reference Frequency Defined Above	-65 dBc/Hz at 100 Hz -75 dBc/Hz at 1 kHz -85 dBc/Hz at 10 kHz -95 dBc/Hz at 100 kHz
Group Delay	0.03 ns/MHz linear max.; 0.001 ns/MHz^2 max parabolic max.; 1 ns ripple max. in any 36 MHz band
AM/PM Conversion	2.0°/dB max @ 2 dB backoff from rated power
Power Supply Voltage	36 to 60 VDC via external DC connector
Power Supply Consumption	150 W typ. estimated at Plin, 250 W max.
Temperature Range	–40°C to +70°C operating *(see note 1)*
Relative Humidity	100% condensing
Weatherproofing	Sealed to 34 kPa
Dimensions (L x W xH)	221 mm x 151 mm x 90 mm (8.7” x 5.9” x 3.54”) *(see note 2)*
Weight	2.8 kg (6.2 lbs)

Note 1: RF performance specifications apply from -40°C to +60°C. Derating may apply to some specifications above +60°C. Contact CPI for details.
Note 2: Does not include connectors and pressure window, contact CPI for outline drawing if needed.

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Monitor and Control	Digital connector: MIL-C-26482 12-14S socket Ethernet interface: TCP/IP Protocol, 10/100 BaseT via M&C connector, embedded HTTP Web server, Telnet, and SNMP Digital data format RS232 and RS485 (2-wire) serial: 9600 bps, 8 bits, no parity, 1 stop bit, ASCII protocol FSK data format: User Selectable, ASCII, Codan, or GVF Standard (ND Satcom) FSK data Tx/Rx frequency: 650 kHz ±1% FSK data transmitter deviation: ±60 kHz ±1% FSK data transmitter sense: +60 kHz=mark; –60 kHz=space FSK output level: -8 dB nominal FSK start tone time: 10 ms min. FSK data receiver input sensitivity: -20 dBm min.

Accessories Ordering Guide

Order Code/Part #	Description
7550	7550 LAN Interface
7551	7551 Reference Source
7551-1	7551-1 Reference Source with 1 m Coaxial Cable & Sealing Kit
7552	7552 FSK to USB Interface
LNB-KU-R1	LNB, 10.95 to 11.70 GHz, 75 K, 60 dB Gain, N-type Output c/w Flange Kit
LNB-KU-R2	LNB, 11.70 to 12.20 GHz, 75 K, 60 dB Gain, N-type Output c/w Flange Kit LNB,
LNB-KU-R3	LNB, 12.25 to 12.75 GHz, 75 K, 60 dB Gain, N-type Output c/w Flange Kit
RRF-KU	Receive Reject Filter c/w Flange Kit (Pass: 13.75 to 14.50 GHz, Reject: 10.7 to 12.75 GHz)
TRF-KU	Transmit Reject Filter c/w Flange Kit (Pass: 10.7 to 12.75 GHz, Reject: 13.75 to 14.50 GHz)
08-05366-010	Cable, Coaxial 50 Ω N-N Plug, 1 m
08-05972-002 (L)	Cable, M&C, Serial PC, 2 m
08-06448-005	Cable, External DC Input, 5 m
08-07189-XXX (L)	Cable, M&C, LAN RJ45 In/Outdoor (available in 2, 6, 50, 100 m lengths)
15-40183	Kit, WR75 Waveguide Adaptor (to mate metric to 6/32 UNC WR75 flanges)
15-40163	Kit, Flexible Waveguide, 36 Inches, Ku-band
15-40202	Kit, Connector Sealing
15-40206	Kit, Flange, WR75, Ku-Band BUCs
15-42099-000	Kit, Boom Mounting (mounting brackets c/w bolts, nuts and washers)
15-42100-000	Kit, Panel Mounting (offset mounting brackets c/w M4 screws and 3x3 inch hole spacing)
15-44039-EN	BUC Technical Information CD
67-3011-0093	Cable, USB, Type A to Type B, 1 m (for use with 7550/7552)
67-91500	Cable, 15 Core DB15M to DB15F Grey, 0.75 m (for use with 6570/7550)
78-01030	Adaptor, WR75 Waveguide to N-type

Quality Management System - ISO 9001:2008

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