

BluSDR-90-UL

BluSDR™ 10W Ultra-Lightweight Radio Module

Overview:

The BluSDR-90-UL is designed to meet the needs of both mobile and fixed-site applications and is optimized for long-range communication on drone platforms, enabling reliable connectivity capable of over ±150km in line of sight applications.

Utilizing DTC's proprietary Software Defined Radio (SDR) architecture and offering a full 10W of output power, the BluSDR-90-UL is delivered with the industry-leading MeshUltra™ waveform that enables up to 144 nodes to operate in a self-healing network through its MANET IP Mesh capability.

Weighing 210g (7.4oz), the BluSDR-90-UL is an ultra-lightweight, low-SWaP radio module with interface options including Ethernet, 2x USB, serial data, audio and GPIO designed for maximum ease of integration, mission flexibility and the ability to support seamless communication, even in the most challenging and contested environments.

The BluDR-90-UL is part of DTC's trusted BluSDR™ product line offering a versatile, software-defined, multi-waveform architecture on single radio module for Uncrewed platforms in all domains.

± Depending on environment

Features and Benefits:

- Powerful 10 Watt RF output
- Ideal for long range applications over ±150km line of sight capability
- Support for SBUS and MAVLink protocols
- Ultra-lightweight variant for weight critical applications
- Wide power supply range up to 32V
- MeshUltra™ MANET waveforms included to support up to 144 nodes in a self forming self healing Mesh network
- Optional AES128/256 encryption (accredited to FIPS140-2 for MeshUltra™ waveforms)
- USB support for peripherals such as 3G/4G/Wi-Fi dongles
- RNDIS support for Ethernet over USB
- Data capacity up to 87Mbps in 20MHz channel bandwidth
- Interlink mode for enhanced capability and large scale systems
- 64GB built-in storage



Product Information:

Product Codes

BluSDR-90-120170-UL	BluSDR-90 Ultra-Lightweight 10W, 1.20-1.70GHz
BluSDR-90-198270-UL	BluSDR-90 Ultra-Lightweight 10W, 1.98-2.70GHz
BluSDR-90-420520-UL	BluSDR-90 Ultra-Lightweight 10W, 4.20-5.20GHz

Product Includes

CA3867	8-way JST to RJ45 Ethernet
CA4430	4-way Molex Pico-Lock to 2-way XT60 (m) power cable

Accessory Options (sold separately)

CA4385	4-way Molex Pico-Lock to bare ends power cable
CA4386	4-way Molex Pico-Lock to 4-way XLR (m) power cable
CA4065	4-way XLR (f) to 12V 120W PSU IEC (m)
CA4277	SMA (m) to SMA (f) cable 0.5m
CA4387	SMA (m) to SMA (m) cable 0.5m
CA4388	SMA (m) to SMA (m) cable 1m
CA2095	3-way JST to 3-way Lemo (f) data cable
CA0001	3-way Lemo (m) to 9-way D-sub (f) data cable
CA3740	5-way JST to USB-A (f) cable
CA3742	5-way JST to USB micro (f) cable
AP007377	USB micro (m) to USB-A (m) cable
CA3983	5-way JST to USB Ethernet adaptor
CA3866	6-way JST to audio phono cable
CA4384	6-way JST to GPIO free ends cable
SA4972	Mounting bracket x2 kit
SA4973	Active heatsink assembly kit

BluSDR™ 10W Ultra-Lightweight Radio Module

Technical Specification:

IO

COFDM RF transceiver	SMA (f) 50Ω x 2
USB 0 host	5-way 1mm JST
USB 1 host/device configurable	5-way 1mm JST
Power	4-way 2mm Molex Pico-Lock
RS-232 data	3-way 1mm JST
GPIO + 3V3 out	6-way 1mm JST
Gigabit Ethernet	8-way 1mm JST
Analogue audio	6-way 1mm JST

COFDM Transceivers

Power	5W (37dB) per output, 10W total
Power step	0.25dB incremental control
Tuning step	125kHz step
Bandwidth	1.25/1.5/1.75/2.5/3.0/3.5/4.0/5.0MHz (MeshUltra-M/-80/-X) 6.0/7.0/8.0/10.0/12.0/14.0/16.0/20.0MHz (MeshUltra-M/-80)
Mesh capacity	Up to 87Mbps
Carrier modulation	BPSK/QPSK/16QAM/64QAM (adaptive)
FEC rate	1/2, 2/3 (adaptive)
Receive sensitivity	-98dBm (BW 2.5MHz/QPSK 1/2)
Receive input level	+20dBm max.

Audio

Interface	Analogue microphone/headphone with bias
Compression	G726 32kbit audio 8kHz sampling and mute
Input level (600Ω impedance)	0.25mV to 1.14V RMS
Output level	32mW RMS max into a 16Ω load

Data

Configuration	1k2 to 115k2, 7/8 bit, no/odd/even parity
Interface	RS-232 or USB peripheral

Encryption

Standard	DES
Licensed option	AES128/256 (subject to export control)

Storage

Medium	128GB internal microSD
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Power

DC input	10-32V
Power consumption	Peak inrush: 120W 5MHz BW with 25-90% occupancy: 30W to 55W typ.

Environment

Temperature range	-20°C to +55°C with additional cooling
Humidity	Less than 85% non-condensing
Cooling	External heatsink or fan required

Physical

Dimensions (module)	130mm x 60mm x 15mm (not incl SMA)
Weight (module)	210g
Dimensions (heatsink assembly)	132mm x 60mm x 40mm
Weight (heatsink assembly)	300g

License Options

Includes DTC MeshUltra™ MANET Mesh capability as standard. See MeshUltra family brochure for more details.

BluSDR-IAS	Interference Avoidance Scheme for Mesh
BluSDR-LOWBIT	Low Bitrate Video Encoding
†BluSDR-P2MP	Point-to-Multipoint System for Mesh
BluSDR-RANGING	Ranging Measurements for BluSDR Radios
BluSDR-SNAPSHOTS	Triggered JPEGs with Associated Timestamps
#AES128	AES128 Cryptography Licence
#AES256	AES256 & AES128 Cryptography Licence

Accredited to FIPS140-2 for MeshUltra™ waveforms

† Enables split frequency TX/RX operation for special applications. Contact DTC for more information.

Encrypted products are subject to regulatory export controls

For further information contact your Sales Account Manager, one of our Regional Sales Offices, or email solent.info@domotactical.com

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