

# BluSDR-30

## BluSDR™ 2W Radio Module

### Overview:

As part of the DTC BluSDR™ family of products, BluSDR-30 is designed for a wide range of UxV applications, and is particularly suitable for small drone platforms operating in medium range applications up to 30km in range.

Based around DTC's SOL8SDR (software defined radio) architecture and offering a full 2W of output power, BluSDR-30 includes MANET IP Mesh capability to allow up to 144 nodes in a self-healing network using DTC's industry leading MeshUltra-X™ waveform.

BluSDR-30 includes a rich set of interface options including Ethernet, serial and dual USB as well as an on-board headset audio interface. BluSDR-30 Clamshell and Plain boxed variants also offer the option of USB-C powering direct from a suitable end user device or USB-C battery (USB PD compliant).



### Features and Benefits:

- 2W total output power (2x1W COFDM transceivers)
- Ideal for medium range applications up to 30km
- Support for SBUS and MAVLink protocols
- USB-C power option compliant with USB PD (Clamshell and Plain variants)
- RNDIS support for Ethernet over USB
- Ethernet and RS-232 data connectivity
- 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
- 128GB built-in storage
- Compact packaging with EMC screening included
- Low power consumption, typically 12W IP Mesh
- Small size and weight
- Available as a Clamshell Core, or a Plain or Robust boxed module

### Product Information:

#### Product Codes

BluSDR-30-xxxxxy-C	BluSDR-30 2x1W Clamshell Core
BluSDR-30-xxxxxy-C-NC	BluSDR-30 2x1W Clamshell Core (no cables)
BluSDR-30-xxxxxy-B	BluSDR-30 2x1W Plain Boxed
BluSDR-30-xxxxxy-R	BluSDR-30 2x1W Robust Boxed

xxxxxy denotes frequency, see over

#### Clamshell Product Includes

CA3740	5-way JST to USB-A (f) cable
CA3867	8-way JST to RJ45 Ethernet
CA4237 x 2	MMCX RA (m) to SMA (f) cable 200mm
CA4411	4-way JST to 2-way XT60 (m) power cable

#### Clamshell Accessories (sold separately)

AP007377	USB-A (m) to USB micro (m) cable
AP010399	USB-A (m) to USB-C (m) cable
CA0001	3-way Lemo (m) to 9-way D-sub (f) data cable
CA0002	4-way Lemo (m) to banana plugs power cable
CA2095	3-way JST to 3-way Lemo (f) data cable
CA3742	5-way JST to USB micro (f) cable
CA3866	6-way JST to audio phono cable
CA3900	4-way JST to 4-way Lemo (f) power cable
CA3752	MMCX (m) to SMA (f) cable 100mm
CA3903	MMCX (m) to SMA (f) cable 200mm
CA3865	4-way JST to banana plugs power cable
CA3983	5-way JST to USB Ethernet adaptor

# BluSDR-30

## BluSDR™ 2W Radio Module

### Product Information (cont.):

#### Plain Boxed Product Includes

CA0002	4-way Lemo to banana plugs power cable
CA3172	12V 6.67A 80W PSU with Lemo

#### Plain Boxed Accessories (sold separately)

AP007377	USB-A (m) to USB micro (m) cable
AP010399	USB-A (m) to USB-C (m) cable
CA3978	6-way Lemo to free end GPIO/RS-232 cable
CA3986	6-way Lemo to 9-way D-sub (f) RS-232 cable

#### Robust Boxed Product Includes

CA4171	7-way Fischer to DC power and Ethernet cable
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#### Robust Boxed Accessories (sold separately)

CA4173	7-way Fischer to USB-A (f) and GPIO free end cable
CA4174	7-way Fischer to USB-A (f) cable
CA4339	9-way Fischer to RS-232 D-sub (f) and 2x 3.5mm audio jack cable

### Technical Specification:

#### IO (Clamshell Core)

RF COFDM transceiver 1	MMCX 50Ω (f)
RF COFDM transceiver 2	MMCX 50Ω (f)
GPIO and power out	6-way 1mm JST
Gigabit Ethernet	8-way 1mm JST
USB1 control and download	5-way 1mm JST
USB2 control and download	USB-C (PD) 5-way 1mm JST
Power input	4-way 2mm JST USB2 with power delivery (USB-C PD)
Analogue audio	6-way 1mm JST
RS-232	3-way 1mm JST

#### IO (Plain Boxed)

RF COFDM transceiver A	SMA 50Ω (f)
RF COFDM transceiver B	SMA 50Ω (f)
Power input	4-way Lemo (f) USB2 with power delivery (USB PD)
Gigabit Ethernet	RJ45
USB1 control and download	USB Type-A
USB2 control and download	USB Type-C
Analogue audio	3.5mm jack
GPIO and RS-232 serial	6-way Lemo (f)

#### IO (Robust Boxed)

RF COFDM transceiver A	TNC 50Ω (f)
RF COFDM transceiver B	TNC 50Ω (f)
Power input Gigabit Ethernet	8-way Fischer (f)
USB host GPIO	7-way Fischer (f)
Analogue audio RS-232 serial data	9-way Fischer (f)

#### COFDM Transceivers

Power	1W (+30dBm) per output, 2W total
Power step	0.25dB incremental control
Tuning step	125kHz
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 MeshUltra
Carrier modulation	BPSK/QPSK/16QAM/64QAM (adaptive)
FEC rate	FEC1/2, FEC2/3 (adaptive)
Receive sensitivity	-98dBm (BW 2.5MHz/QPSK 1/2)

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### Technical Specification (cont.):

#### Audio

Interface	Analogue mic/head 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

Data configuration	1k2 to 115k2, 7/8 bit, no/odd/even parity
Data interface	RS-232 or USB peripherals

#### Encryption

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

#### Storage

Medium	Internal microSD 128GB
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#### Physical (Clamshell Core)

Dimensions	95mm x 60mm x 15mm
Weight	110g

#### Physical (Plain Boxed)

Dimensions	150mm (160mm incl. connectors) x 75mm x 24mm
Weight	462g approx.

#### Physical (Robust Boxed)

Dimensions	157mm (165mm incl. mounting) x 75mm x 21mm
Weight	430g approx.

#### Power

DC input	8-17V overvoltage protected up to 30V
Power consumption	12W RMS @13V 25% data occupancy 18W RMS @13V 100% data occupancy
Inrush current (power up)	10A @13V

#### Environment

Temperature range	-20°C to +55°C with additional cooling for clamshell variant
Humidity	Less than 85% non-condensing
Sealing (Robust boxed)	IP68

#### Frequency

120170	1.20-1.70GHz
178229	1.78-2.29GHz
198270	1.98-2.70GHz
440500	4.40-5.00GHz
550600	5.50-6.00GHz

#### 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
*AES256	AES256 & AES128 Cryptography

\* 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](mailto:solent.info@domotactical.com)

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