

BluSDR™ Radio Module

Overview:

As part of the DTC BluSDR™ family of products, BluSDR-6 is designed specifically for size and weight critical UxV applications, and is particularly suitable for small drone platforms operating in short range applications up to 6km in range.

Based around DTC's SOL8SDR (software defined radio) architecture and offering up to full 400mW output power (frequency dependent), BluSDR™-6 includes MANET IP Mesh capability to allow up to 144 nodes in a self-healing network using DTC's industry leading MeshUltra-X™ waveform.

With two USB interfaces capable of supporting USB cameras and headsets as well as Wi-Fi, cellular and Ethernet dongles, BluSDR™-6 can also be connected to a range of host devices using RNDIS Ethernet over USB connectivity.

Features and Benefits:

- 400mW total output power (2x200mW COFDM transceivers - frequency dependent)
- Ideal for short range applications up to 6km
- MeshUltra™ MANET waveforms included to support up to 144 nodes in a self forming self healing Mesh network
- Support for SBUS and MAVLink protocols
- 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
- RNDIS support for Ethernet over USB
- Compact packaging with ultra-miniature connectors
- Low power consumption, typically 4W not including camera
- Exceptionally small size and weight
- Available as a core PCB or a boxed module



BluSDR-6



BluSDR-6-B

Product Information:

Product Codes

BluSDR-6-xxxxyy	BluSDR-6 Core PCB
BluSDR-6-xxxxyy-NC	BluSDR-6 Core PCB (no cables)
BluSDR-6-xxxxyy-B	BluSDR-6 Boxed
BluSDR-6-xxxxyy-B-NC	BluSDR-6 Boxed (no cables)

xxxxyy denotes frequency, see over

Product Includes

CA3740	5-way JST to USB-A (f) cable
CA3742	5-way JST to USB micro-B (f) cable
CA4237 x 2	MMCX RA (m) to SMA jack (f) cable 200mm
CA4492	4-way Molex to 2-way XT60 power cable

Accessory Options (sold separately)

*ANT1-100150	1dBi omni antenna SMA 1.0-1.5GHz
*ANT2SMA-200250	2dBi omni antenna SMA 2.0-2.5GHz
AP007377	USB-A (m) to USB micro-B (m) cable
CA3752	MMCX (m) to SMA jack (f) cable 100mm
CA3903	MMCX (m) to SMA jack (f) cable 200mm
CA3983	5-way JST to USB Ethernet adaptor
CA4004	4-way Molex to 2-way Micro-Fit (m) power cable
CA4005	2-way Micro-Fit to 7.4V slimline battery
CA4006	2-way Micro-Fit to 8.4V 1.3A battery charger
CA4016	2-way Micro-Fit to 12V 2A DC mains adapter
CA4017	2-way Micro-Fit (f) to banana plugs power cable
SA4525	Heat sink clamp
†D740-OEM	USB V2.0 to 10/100 Ethernet converter
SOL8SDR-M-CACLAMP-50	Cable clamp for 50mm length BluSDR
SOL8SDR-M-CACLAMP-56	Cable clamp for 56mm length BluSDR

*Two antennas required per module

† See separate datasheet

BluSDR™ Radio Module

Technical Specification:

IO

RF COFDM transceiver 1	MMCX (female 50Ω)
RF COFDM transceiver 2	MMCX (female 50Ω)
Power input	Molex 4-way 1.25mm
USB1 control and download	JST 5-way 1mm
USB2 control and download	JST 5-way 1mm
GPIO	JST 6-way 1mm

COFDM Transceivers

RF power (frequency dependent)	100mW (+20dBm) per output, 200mW total 200mW (+23dBm) per output, 400mW 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)

Encryption

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

Power

DC input	6V to 18V reverse polarity protected
Power consumption (excluding cameras)	3W typical (2x100mW) 4W typical (2x200mW)

Storage

Medium	Internal microSD 128GB
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Physical (Core PCB)

Dimensions (120170/167235/420520)	56mm x 48mm x 7.7mm
Weight (120170/167235/420520)	26g approx.
Dimensions (210250)	50mm x 45mm x 7.7mm
Weight (210250)	24g approx.

Physical (Boxed)

Dimensions (120170/167235/420520)	56mm x 54mm x 11mm
Weight (120170/167235/420520)	62g approx.
Dimensions (210250)	50mm x 54mm x 11mm
Weight (210250)	60g approx.

Environment

Temperature range	-20°C to +50°C with additional cooling
Humidity	Less than 85% non-condensing

Frequency Options

120170	1.20-1.70GHz 2x100mW
167235	1.67-2.35GHz 2x200mW
210250	2.10-2.50GHz 2x200mW
420520	4.20-5.20GHz 2x100mW

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-P2MP	Point-to-Multipoint System for Mesh
BluSDR-RANGING	Ranging Measurements for BluSDR Radios
*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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