

# BluSDR-90-R

## 10W BluSDR Robust Radio

### Overview:

The BluSDR-90-R is a ruggedised software defined radio transceiver with 10W total RF output power; optimized for long-range communication on drone platforms, enabling reliable connectivity typically up to ±90km in line of sight applications.

The BluSDR-90-R 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.

The BluSDR-90-R includes Gigabit Ethernet, USB, serial data, audio and GPIO designed for mission flexibility and the ability to support seamless communication, even in the most challenging and contested environments.

The BluDR-90-R 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 typically up to ±90km line of sight capability
- Support for SBUS and MAVLink protocols
- 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 4G/Wi-Fi dongles and GPS
- Data capacity up to 87Mbps in 20MHz channel bandwidth
- Interlink mode for enhanced capability and large scale systems
- 128GB built-in storage

### Product Information:

#### Product Codes

|                    |                                          |
|--------------------|------------------------------------------|
| BluSDR-90-120170-R | BluSDR-90 10W Robust Radio, 1.20-1.70GHz |
| BluSDR-90-198270-R | BluSDR-90 10W Robust Radio, 1.98-2.70GHz |
| BluSDR-90-420520-R | BluSDR-90 10W Robust Radio, 4.20-5.20GHz |

#### Product Includes

|        |                                                |
|--------|------------------------------------------------|
| CA4547 | 12-way Fischer to power XLR (m) and RJ45, 1.5m |
|--------|------------------------------------------------|

#### Accessory Options (sold separately)

|        |                                                                 |
|--------|-----------------------------------------------------------------|
| CA4065 | XLR (f) to 12V 120W PSU                                         |
| 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 |
| CA4534 | 12-way Fischer to power XLR (m) and RJ45, 5m                    |
| CA4535 | 12-way Fischer to power XLR (m) and RJ45, 20m                   |

# BluSDR-90-R

## 10W BluSDR Robust Radio

### Technical Specification:

#### IO

|                                      |                     |
|--------------------------------------|---------------------|
| RF COFDM transceiver A               | N-type 50Ω (female) |
| RF COFDM transceiver B               | N-type 50Ω (female) |
| Power input<br>Gigabit Ethernet      | 12-way Fischer      |
| USB<br>GPIO                          | 7-way Fischer       |
| Analogue audio<br>RS-232 serial data | 9-way Fischer       |

#### 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<br>(MeshUltra-M/-80/-X)<br>6.0/7.0/8.0/10.0/12.0/14.0/16.0/20.0MHz<br>(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 |
|--------|------------------------|

#### Power

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

#### Environment

|                   |                |
|-------------------|----------------|
| Temperature range | -20°C to +55°C |
| IP rating         | IP68           |

#### Physical

|            |                                         |
|------------|-----------------------------------------|
| Dimensions | 200mm x 160mm (incl. connectors) x 36mm |
| Weight     | 1.45kg approx.                          |

#### 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](mailto:solent.info@domotactical.com)

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