

B.A BluSDR™-6 Module



About Commit Embedded

Commit Embedded, part of the Commit group, specializes in designing and delivering customized, fully integrated solutions for smart devices and IoT applications, from initial analysis and design to final deployment and ongoing support.

Commit is a global tech services company with offices in the US, Israel, UK and Europe. Founded in 2005, it has over 700 multi-disciplinary innovation experts who serve a broad range of customers, from small start-ups to large enterprises across multiple business sectors. Commit specializes in advanced technologies and applications, with dedicated practices in Embedded & IoT, Cloud, Software, AI, Cyber, Big Data, Collaboration, and more.

Overview

BA Microwave, subsidiary of Commit, is a leading DTC integrator and reseller in Israel, renowned for its extensive expertise in integrating and operating numerous platforms with the BluSDR Family of radios. This experience uniquely positions BA to deliver innovative communication solutions tailored to the Israeli defense and homeland security sectors.

Introducing BluSDR™-6

As part of the DTC BluSDR™ family, BluSDR™-6 is integrated into COMMX wireless™ solutions and is designed for size and weight-critical UxV applications, making it ideal for small drone platforms with short-range operations up to 6km. Based on DTC's SOL8SDR software-defined radio architecture, it offers up to 2x200mW output power and includes MANET IP Mesh capability, supporting up to 144 nodes in a self-healing network powered by the MeshUltra-X™ waveform. With two USB interfaces for USB cameras, headsets, Wi-Fi, cellular, and Ethernet dongles, BluSDR™-6 can connect to a range of host devices via RNDIS Ethernet over USB connectivity.

Features and Benefits:

- ✓ Up to 2x200mW COFDM transceivers, 400mW total (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
- ✓ 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 Small size and weight



Core OEM



Boxed

Product Information:

Product Code	
BAB6WF0xxxxyy	Core PCB for OEM with the included cables
BAB6BWF0xxxxyy-NC	Core PCB for OEM with no cables
BAB6BWF0xxxxyy	BABlu6 boxed
BAB6BWF0xxxxyy-NC	BABlu6-boxed

xxxxyy denotes frequency range as specified in frequency options

Product Includes	
CA3740	5-way JST to USB A socket cable
CA3742	5-way JST to USB micro socket cable
CA4004	4-way Molex to 2-way Micro-Fit power cable
CA4017	2-way Micro-Fit to banana plugs power cable
CA3903 x 2	MMCX to SMA plug cable 200mm

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 to micro	USB B cable
CA3752	SMA jack to MMCX plug cable 100mm
CA3983	5-way JST to USB Ethernet adaptor
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
SA452	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

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	100mW (+20dBm) per output, 200mW total
(frequency dependent)	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, 5.0, 6.0, 7.0, 8.0, 10.0MHz (all modes) 12.0, 14.0, 16.0, 20.0MHz (MeshUltra only)
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	3W typical (2x100mW)
(excluding cameras)	4W typical (2x200mW)
Storage	
Medium	Internal microSD 128GB
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 detail	
BluSDR-IAS	Interference Avoidance Scheme for Mesh
†BLUSDR-P2MP	Point-to-Multipoint System for Mesh
*AES128TX	AES 128-Bit Encryption
*AES256TX	AES 256-Bit and AES 128-Bit Encryption
* Accredited to FIPS140-2 for MeshUltra™ waveforms	
† Enables split frequency TX/RX operation for special applications. Contact DTC for more information.	